Drug & Cosmetic INDUSTRY

FEBRUARY 1945

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ELMER SHEETS, Managing Editor
FRANCIS CHILSON, Production Editor
M. A. LESSER, Technical Editor
HARRY G. KELBLY, Market Editor
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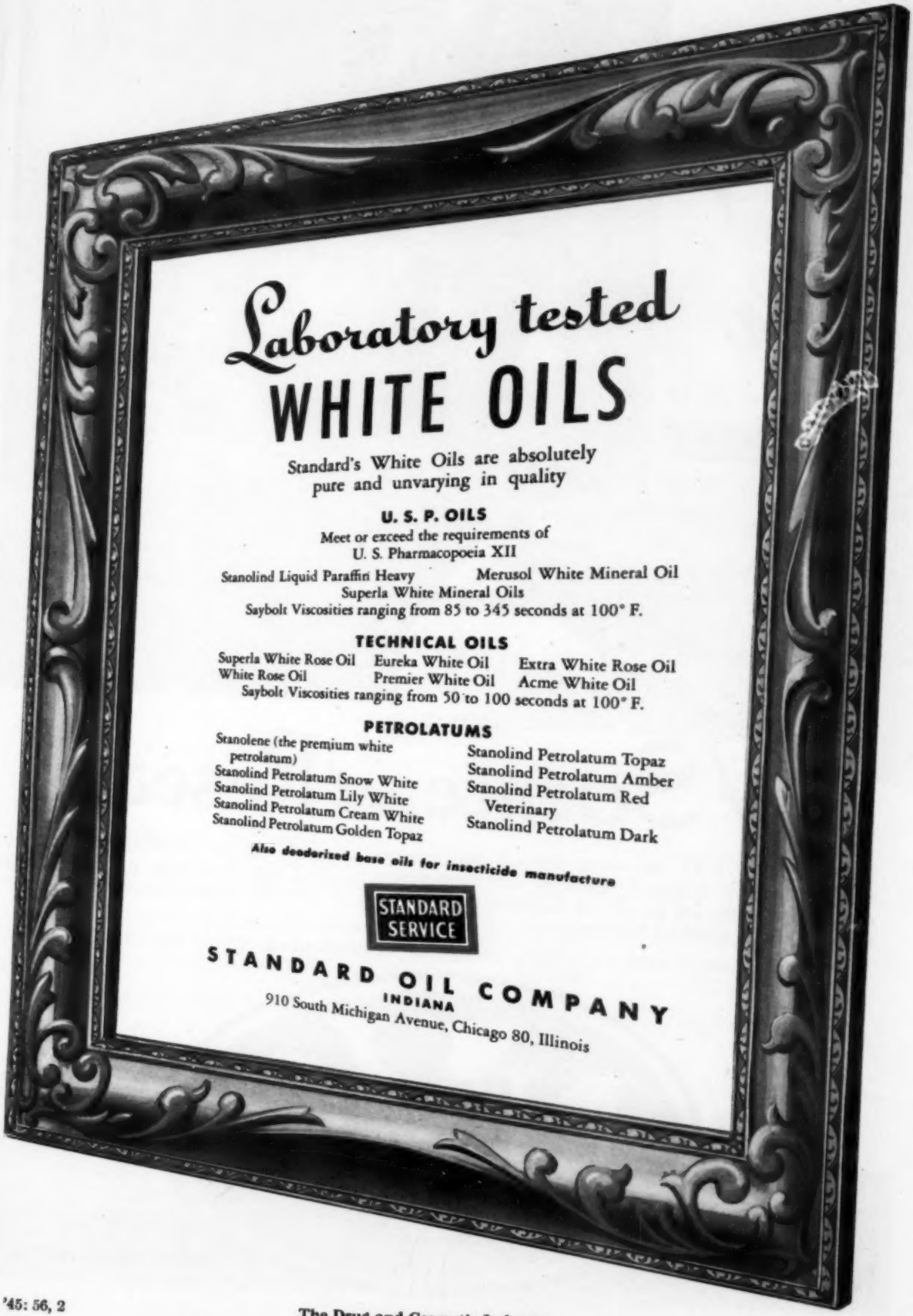
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INSIDE NEWS

FEBRUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Tin Cans Are Vital on Fighting Fronts

The war reduced the number of metal containers on store shelves, but products that necessarily require can protection are still packaged in tin.

The armed forces, of course, have priorities on cans and are using almost unlimited quantities to carry food, medicine, weapons and ammunition. Even as early as the Napoleonic invasion of Russia cans were used by the armies. Food — then, as now — was preserved and transported in sealed containers.

Today, American fighting forces are the best fed in the world — thanks to the can. For, the can protects like no other container. The can is easily handled and transported, is standing up under varied conditions of climate and combat encountered in a global war. Food in them may be hermetically sealed, protected against spoilage, loss of flavor or food value and against any contamination by dirt, germs or tampering. Cans don't shatter, are air-and-light-tight, nonporous, nonflammable, and may be soaked, heated or chilled without disintegrating.

Cans that formerly contained civilian products now carry fluorescent paint, a part of lifeboat equipment. When the contents are thrown overboard, a giant splotch of color — yellowish green in daytime and shining brightly at night — spreads hundreds of feet around the boat, a marker for searching planes. Even at 8,000 feet a plane can see this brilliant signal of distress.

Some types of cans now hold colored signal cartridges and projectors used on the battle fronts to signal enemy positions. Other types are carrying ammunition that must be protected from air, moisture, dirt and rough handling up to the moment it is put in the guns.

And still other cans are booby-trap cans filled with explosives. Two wires run from the inside to hidden trip wires which explode the mine on contact. Such mines cripple enemy tanks by wrecking their treads.

When conditions become impossible for setting up field kitchens, soldiers carry their day's food supply — field rations — in compact cans. As a matter of fact, almost all of the food supplied our expeditionary forces is shipped in cans. All meat, poultry, fish, tomatoes, citrus fruits and soups are canned. Almost all of the leafy green and yellow vegetables and other vegetables, excluding potatoes, are canned. A little more than three-quarters of the fruits other than citrus, and 85% of milk and milk products are canned.

And when the can contents are used up, Yank ingenuity transforms the "empty" into a "desert sand stove" — a gallon food can filled halfway with sand saturated with gasoline. The upper half is punctured to let gases escape. This stove will burn consistently, produce considerable heat, and is not detectable from the air.

We at home can take a lesson from this. We can use empty cans for salvaging vitally needed waste fats, returning to manufacturers when requested, and contributing to the tin salvage drive. 869

Cottonseed Will Help

Amino acids are getting more attention than vitamins these days. They are what brought soybeans their current popularity, both industrially and nutritionally. Cottonseed meal also has a good supply, which is why cottonseed meal has been used for animal feeding. Now, by taking out part of the fat and properly preparing the meal, a cottonseed flour is being produced which is claimed to be wholesome and palatable for human use.

This is important, because it means that there is another source of protein food in the districts which have most need of it because they depend largely on cereals, particularly corn, for food. The protein of cottonseed flour is made up of goodly proportions of the essential amino acids missing in the other cereals. And it is about 50 per cent protein, so that 5 per cent of cottonseed flour mixed with wheat flour will give a mixture with 16 per cent more protein than the wheat flour had alone. And finally, the cottonseed protein is easily digestible, according to those who are working with it. 870

Hens Hatch More Eggs

Information is now available to indicate that a mixture of cereal grasses with condensed milk or condensed buttermilk, when fed as a supplement to laying hens increases egg hatchability. The increase is 1.38 to 4.45 per cent above the basal ration. 871

A More Durable Wood

Wood, impregnated with arsenic compounds by a new Swedish process, is said to have three times the durability of untreated wood. 872

Rubber Vulcanizing Agents

Rubber vulcanizing agents, lead and zinc salts of thiuram polysulfides, are obtained by dissolving thiuram polysulfide in an aqueous solution of lead or zinc salt. 873

Sticky Starches

The glutinous starches, developed from the so-called waxy maize and sorghums, are well adapted for many uses in foods and in adhesives. They give clear, viscous solutions when heated with water, with the further advantage for many food uses that these solutions are tasteless in themselves and, therefore, will not spoil the flavor of food products to which they are added.

Incorrect processing conditions, such as a too acid steep water, will destroy the particular characteristics of these special starches. Too drastic grinding will fracture the granules and result in starch pastes with less viscosity than that of an ordinary low-viscosity starch. Scientists at one of the governmental laboratories have worked out methods to avoid both these dangers. As soon as the crops are available the special starches can be processed to take the place of tapioca starch or for the development of new products, both foods and adhesives, for which their unique properties will provide a foundation. 874

Olive Oil Substitute

Investigation of uses of expressed apricot kernel oil by the Council for Scientific & Industrial Research, Australia, suggests this oil as a suitable substitute for olive oil in the canning of fish. 875

Improving on Nature

Near Atchison, Kansas, a natural cave with 15 acres of floor space, has been converted into a Government cold storage food warehouse. In addition to lighting and transportation facilities, even an electric eye door has been installed. 876

Canada Will Can Apples

Solid-pack apples were reaching a considerable volume of business in Canada before the war, mostly in gallon tins, and it is planned to offer them on the market there in home-size cans as a postwar product.

The Canadian method is to pare, core and trim the fruit by hand, then soak in brine for 12 hours, drain, partially cook by steam on a wire mesh belt, drain and fill into cans. Quick cooking and quick cooling of the cans are important to quality. 877

Papayas Canned

Papaya is a very promising source of vitamin C and provitamin A, with both flavor and texture to recommend it as an addition to northern diets. The fruit is grown in Florida, Texas and California.

One interesting suggestion is a pack made with cubed papaya in a 45 deg. Brix syrup made with grapefruit juice and sugar. Processing offers no difficulties and the product will maintain satisfactory quality for at least 6 months under storage temperatures up to 95 deg. F. 878

NATIONAL CAN

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Super Bacteria-Killing Soap

Incorporation in toilet soap of 2 per cent of dihydroxyhexachloro diphenyl methane produces a soap which has such an effect on the bacterial flora of the human skin that resident bacteria are decidedly and permanently reduced in number. An individual using this soap regularly will have a lower bacterial count after two minutes of washing than an individual who washes for twenty minutes with ordinary toilet soap. Regular use of this medicated soap should do much to shorten pre-operative scrub-up procedure for surgeons and to eliminate the use of irritating germicides. For the general public, and particularly for wartime use by soldiers, regular use should reduce the probability of infection following skin abrasions and superficial wounds. 879

Extracting Fat from Dried Milk Powder

A satisfactory method for extracting fat from dried milk powder has been developed and is employed before making analyses on vitamin content. In recent tests, it was determined that there was a decrease of from 5 to 10 per cent in Vitamin A and carotene after a six month storage period at a temperature of 20 deg. C. An additional 3 to 5 per cent loss resulted from storing at 37 deg. C. Samples held at the lower temperature showed practically no loss of riboflavin and only slight losses at the higher temperature. The material tested was dried whole milk powder, packaged in nitrogen and stored at 20, 30 and 37 deg. C. to determine the effect of temperature and time of storage on vitamin content. 880

Canned Cheese

Vacuum canned cheese made with the usual starters frequently produces sufficient gas after canning to be at atmospheric temperature when ripe, and it is not uncommon for the pressure developed during ripening to be high enough to bulge the ends of the cans. Addition of *Lactobacillus bulgaricus* as a starter results in less gas. The flavor of the cheese is no longer that of a typical cheddar, but is described as being clean, sweet and acceptable to many people. The mature cheese made with this starter withstands storage at 55 to 65 deg. F. for as much as 50 days.

Work is being continued. It is to be hoped that we will soon have canned cheese that looks like cheese, tastes like cheese and keeps indefinitely. 881

Lubricating Composition

The addition of certain metal salts to petroleum oil provides a lubricating composition which overcomes the deterioration or degradation common to ordinary lubricants when subjected for long periods of time to high temperatures and pressure in the presence of metals, air or oxygen, or hydrocarbon partial combustion products. 882

Technical Topics

SOLVENT REMOVES TOXIC SUBSTANCES—An odorless household fly spray, less likely to produce rashes or hay fever symptoms, has been developed by three chemists in the Bureau of Entomology & Plant Quarantine. By a new method, nitromelhane can be used to produce practically pure pyrethrus from the impure petroleum extract of pyrethrum flowers. This new solvent takes out the toxic substances, but leaves the irritating impurities in the petroleum solvent. 883

PRESERVES EGGS — Eggs, treated soon after laying by dipping into light paraffin oil, vis 50-60 Saybolt, containing 0.25% pentachlorophenol at 70°F, keep without change for six months at 31°F and 92 –5% humidity. 884

SNAIL CATCHER — Metaldehyde in bran or orange pulp attracts snails and paralyzes them on contact. When exposed to sun they are killed by loss of moisture. 885

COFFEE USED AS EXTRACT — Coffee can be used to extract not only caffeine fat, and tannin, but a low-cost lubricating oil, useful for motor cars and airplanes and different kinds of phenol and hydrogen. Methods have been devised by a Swedish inventor. 886

VERSATILE SOLVENT — Propylene glycol is a versatile solvent that is receiving attention from many food technologists. It has the advantage of acting not only as a vehicle for flavors, but is claimed to have valuable properties as a moistening agent and as a preservative. One of its recently disclosed applications is in the preservation of shredded coconut. 887

CANNED AND CURED — Lactose is the sweetening agent to use in canned cured meats to avoid acid and gas formation, according to well known meat technologists whose work has just resulted in a patent on a curing method using this sugar. 888

NEW WOOD GLUE — Phenol resin is one of the new "synthetic" glues that has found numerous uses in the wood manufacturing industry. Odd shaped lumber can be laminated together with this waterproof resin making the construction stronger than solid wood of the same dimension and very much less subject to splitting and checking. As opposed to plywood, the term "lamination" generally refers to the taking of solid wood and gluing it with all plies running in the same direction. 889

DENATURANT — Racemic menthol as a denaturant for specially denatured alcohol in place of the U.S.P. material has been approved by the Treasury Department in certain formulas, following data and samples submitted to the Department. 890

PARIS GREEN — The loss of sodium sulphate as waste in the production of paris green is avoided in a new Russian process employing copper oxide, arsenic trioxide, and acetic acid (in excess). Laboratory and pilot-plant operations have given 1,000 parts of dry paris green from 326 to 329 parts of copper oxide, 602 to 614 parts of arsenic trioxide, and 132 to 137 parts of acetic acid. 891

SODIUM SULPHITE IMPROVES MASHED POTATO POWDER — The addition of sodium sulphite to the mash before drying, in the manufacture of mashed potato powder, improves the color of the product and decreases the loss of ascorbic acid during drying. It also increases storage life. The addition of calcium chloride to the mash has a marked effect in reducing cell damage. 892

PETROLATUM — Petrolatum penetrates the skin better when mixed with water. The addition of woolfat or cholesterol makes it possible to incorporate far more than the 10 per cent of water which can be got into plain petrolatum. The addition of 2 parts of woolfat to 98 parts of petrolatum brings the water percentage up to 60; adding 4 per cent of cholesterol makes it easy to add well over 200 per cent of water. The technique is to beat the water into the cooling melted petrolatum. 893

MOTHPROOFING PROTEINACEOUS FIBERS — Mothproofing of raw furs and other proteinaceous fibers is successfully reported with a saturated solution of sodium chloride (liquor ratio 25:1) containing 1 per cent of formaldehyde and hydrochloric or sulphuric acid. The best results are obtained at a pH of nearly 0.5. 894

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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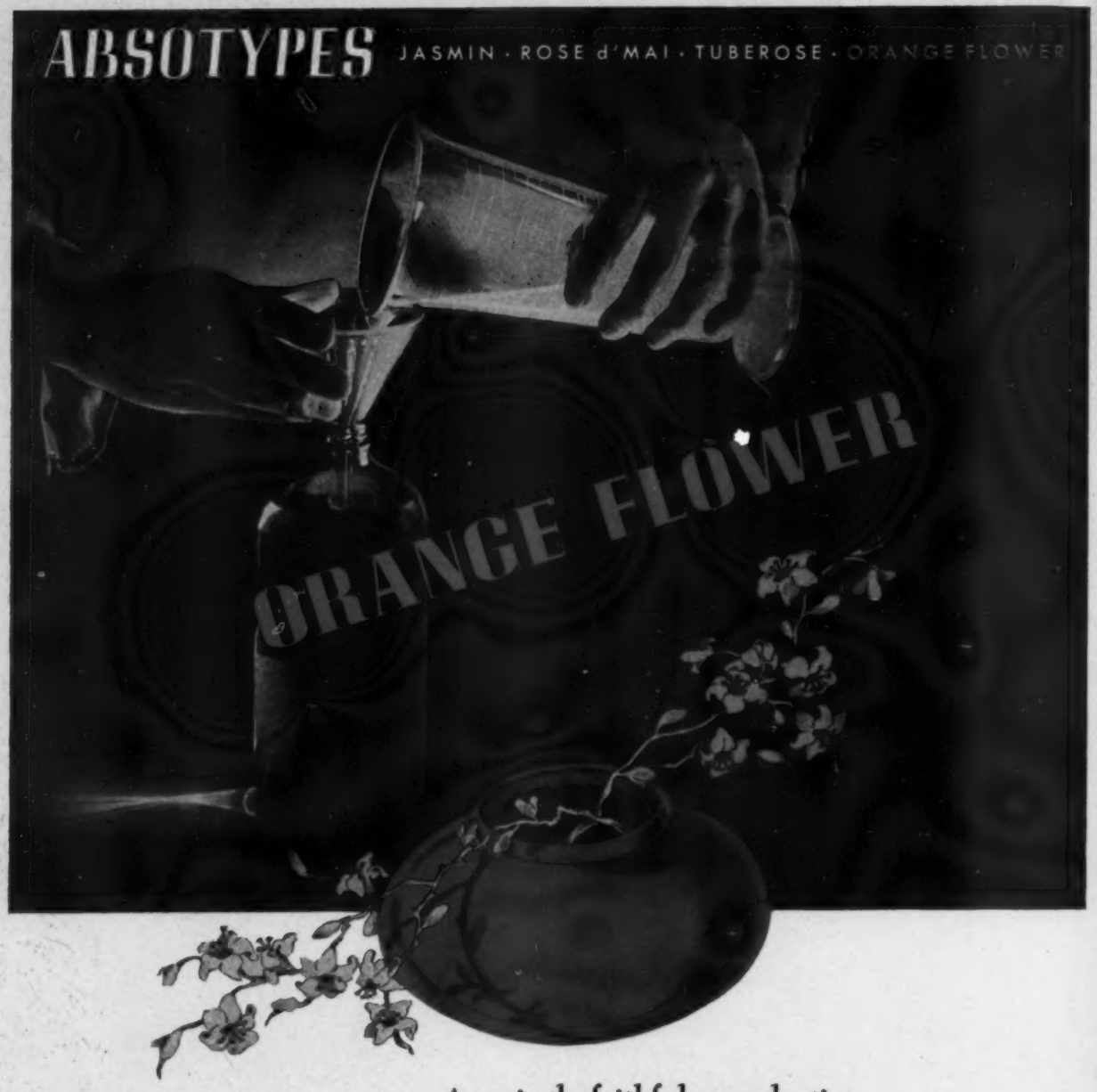

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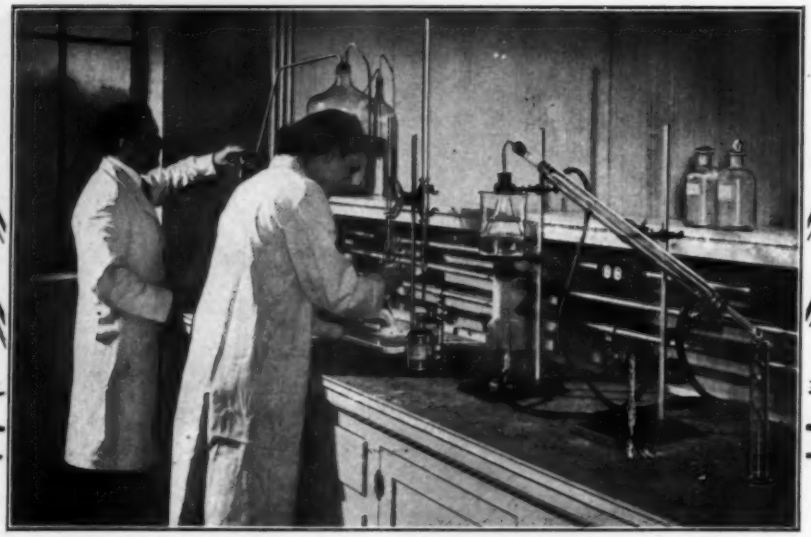

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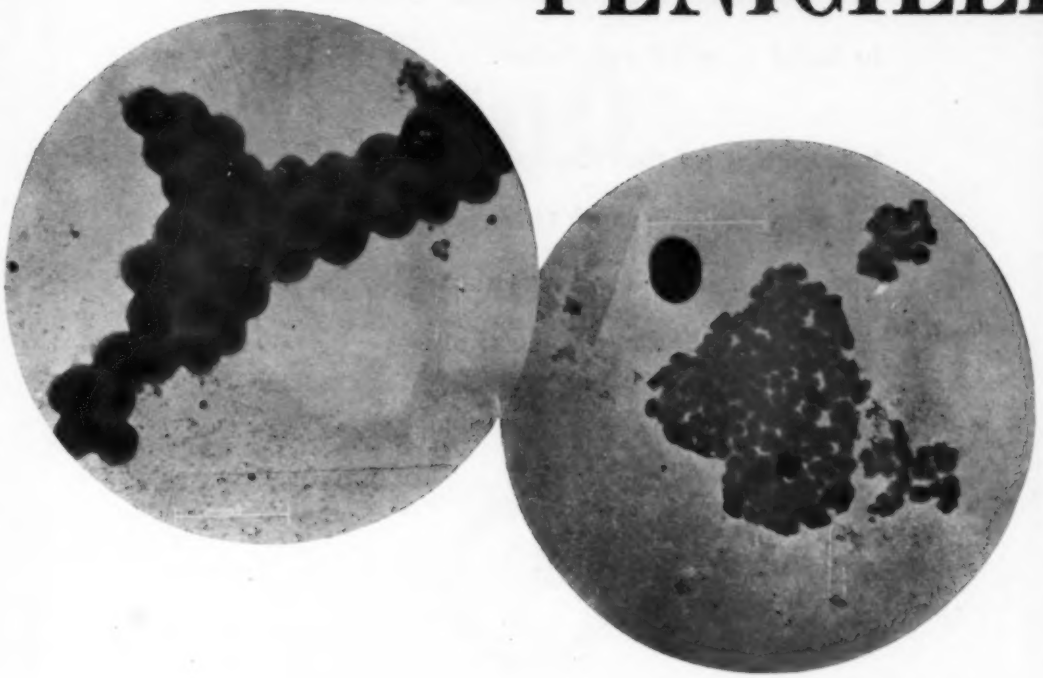

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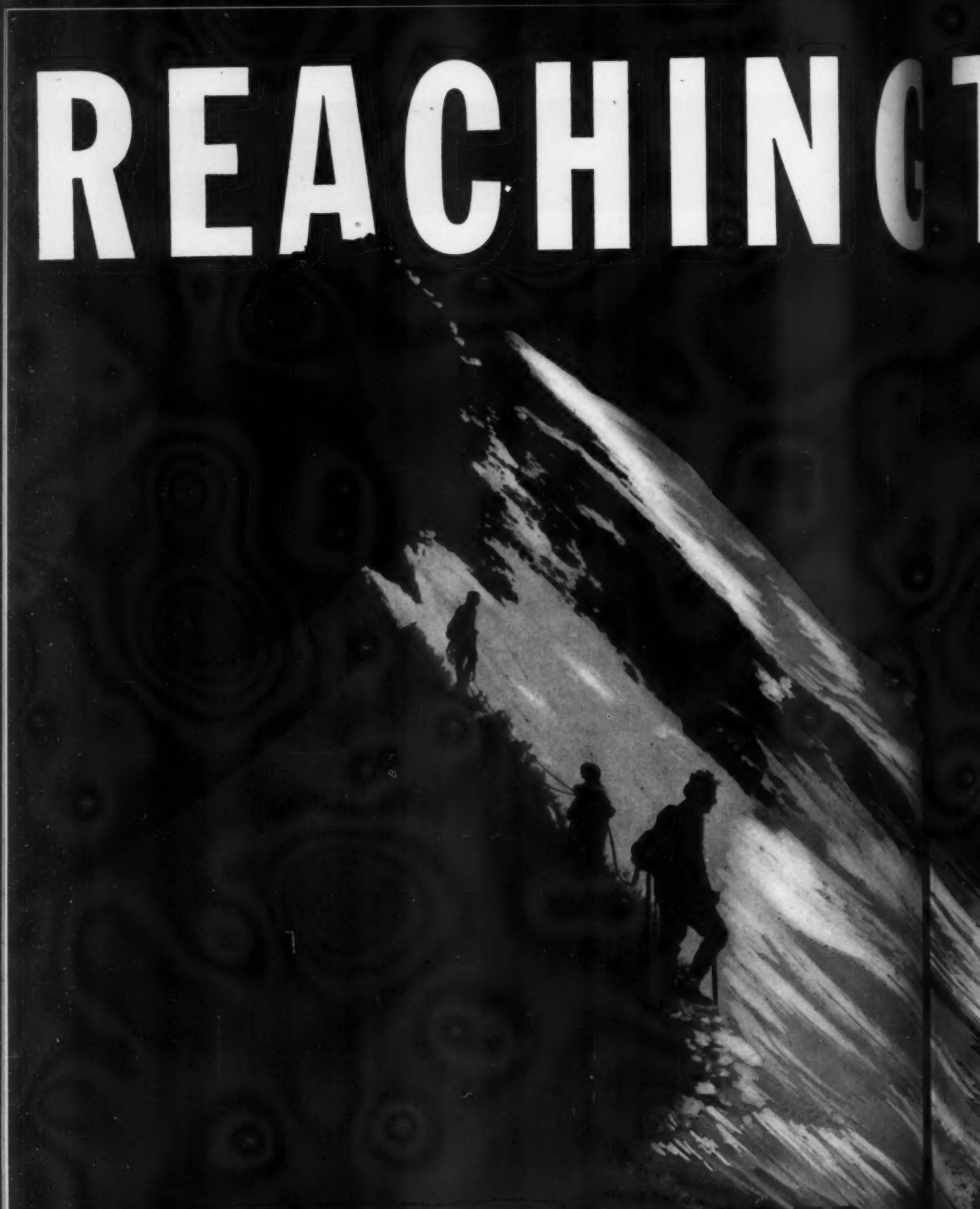

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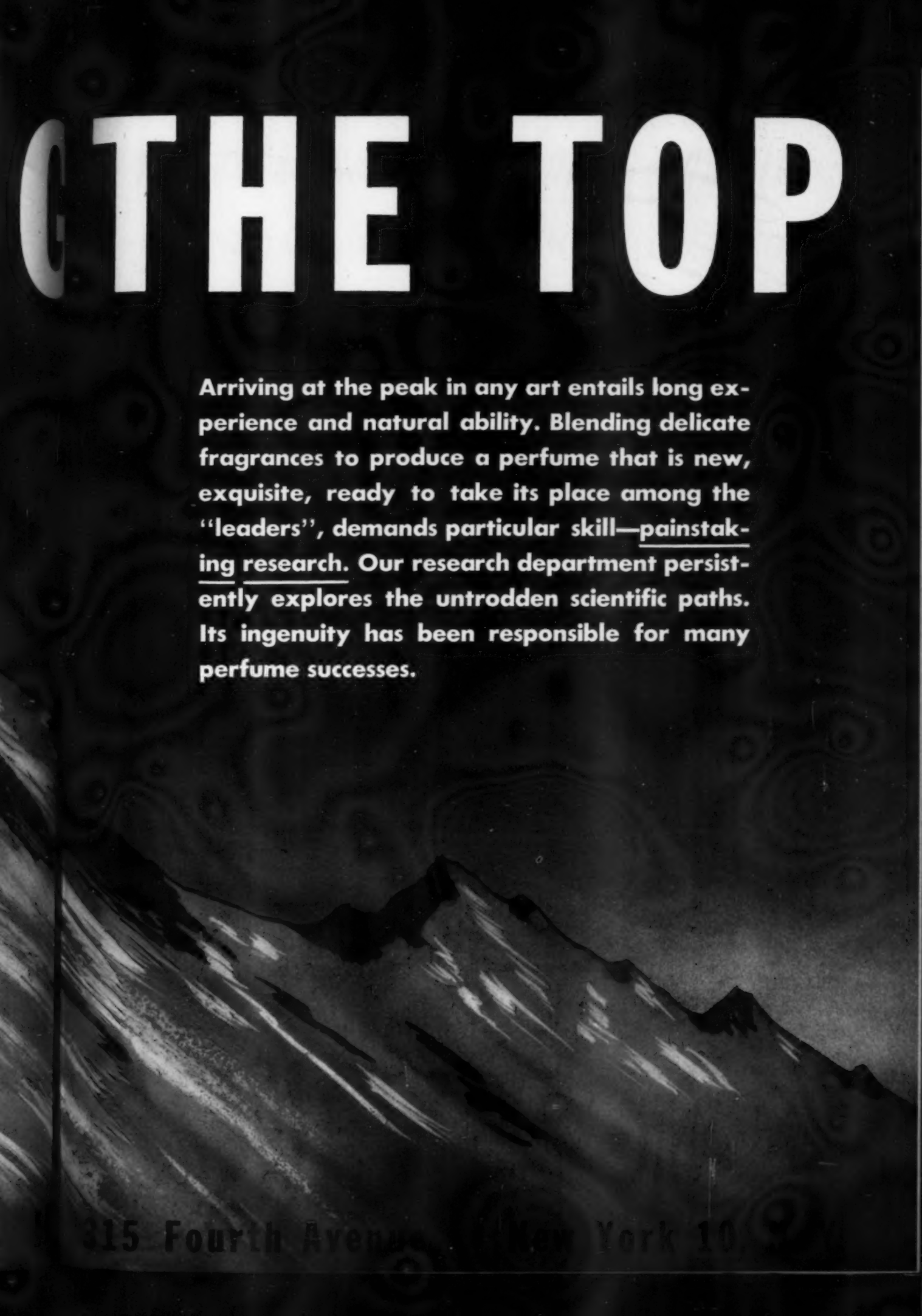

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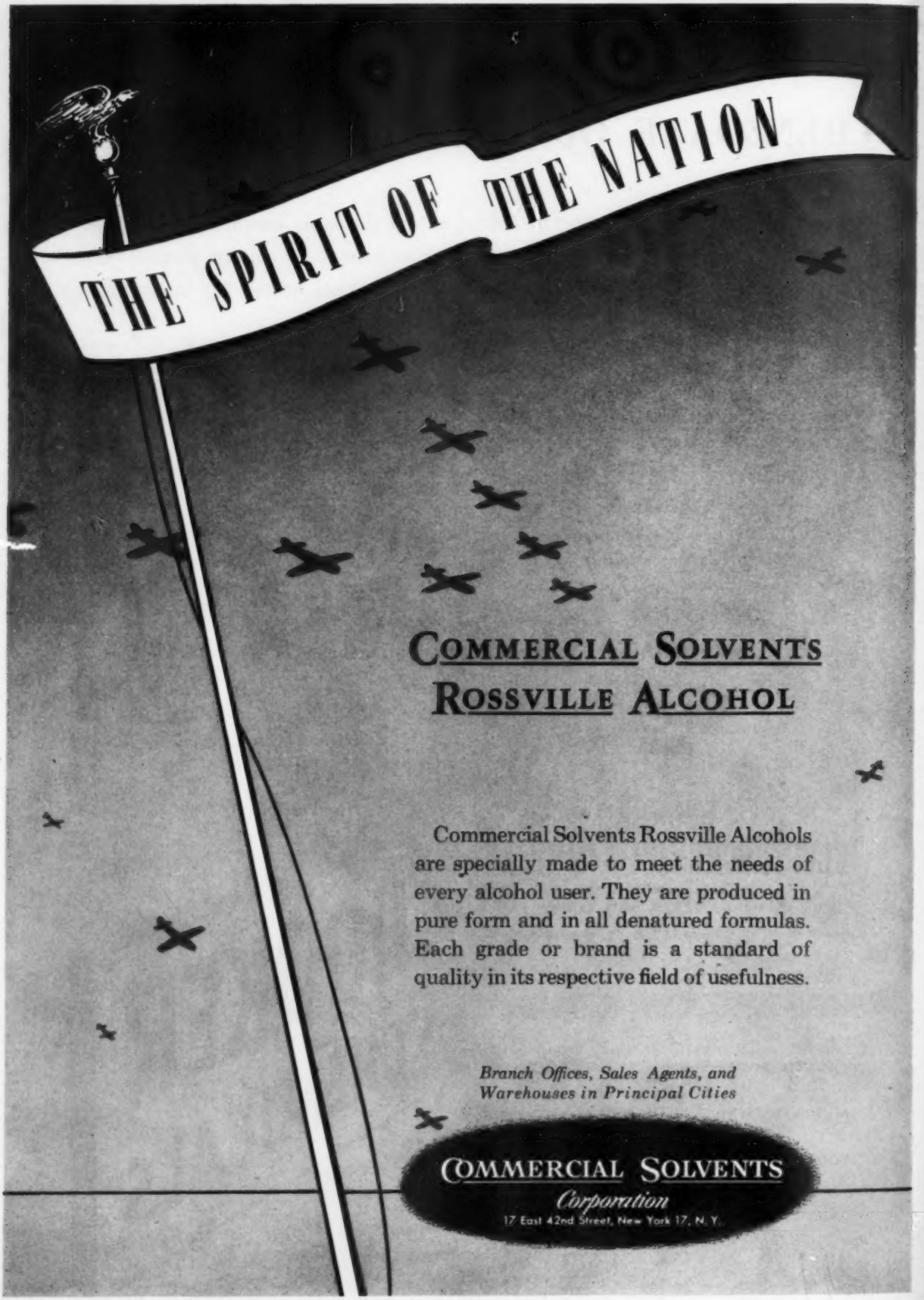
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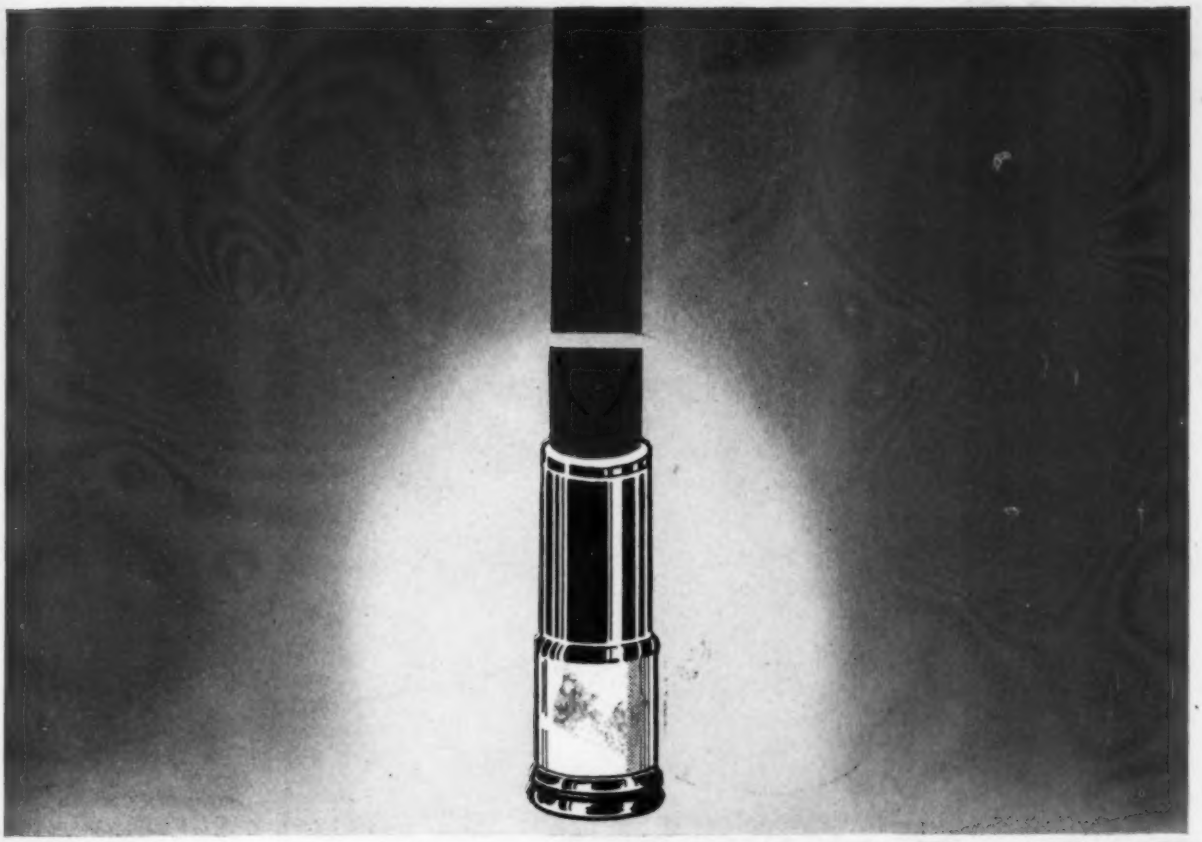

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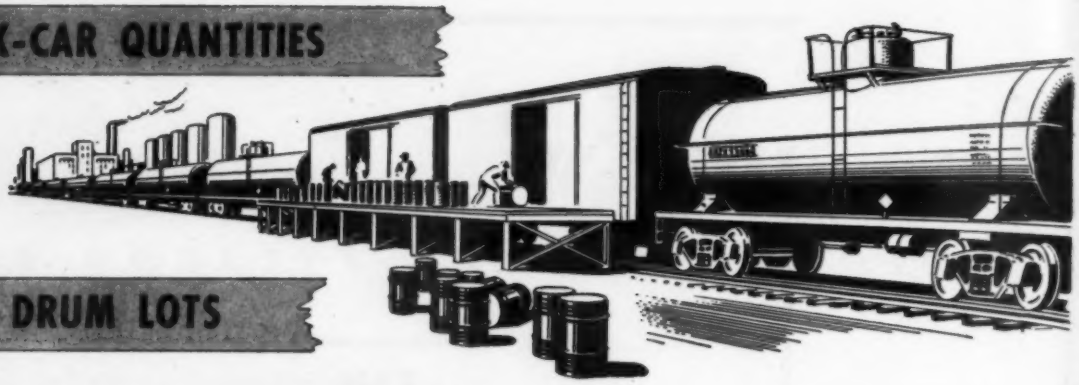

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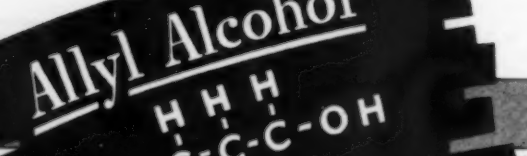

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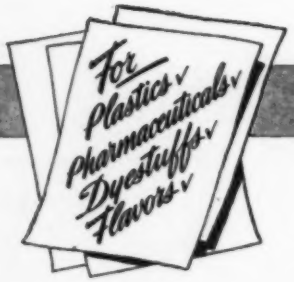

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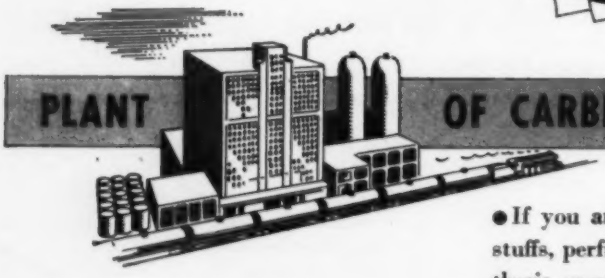

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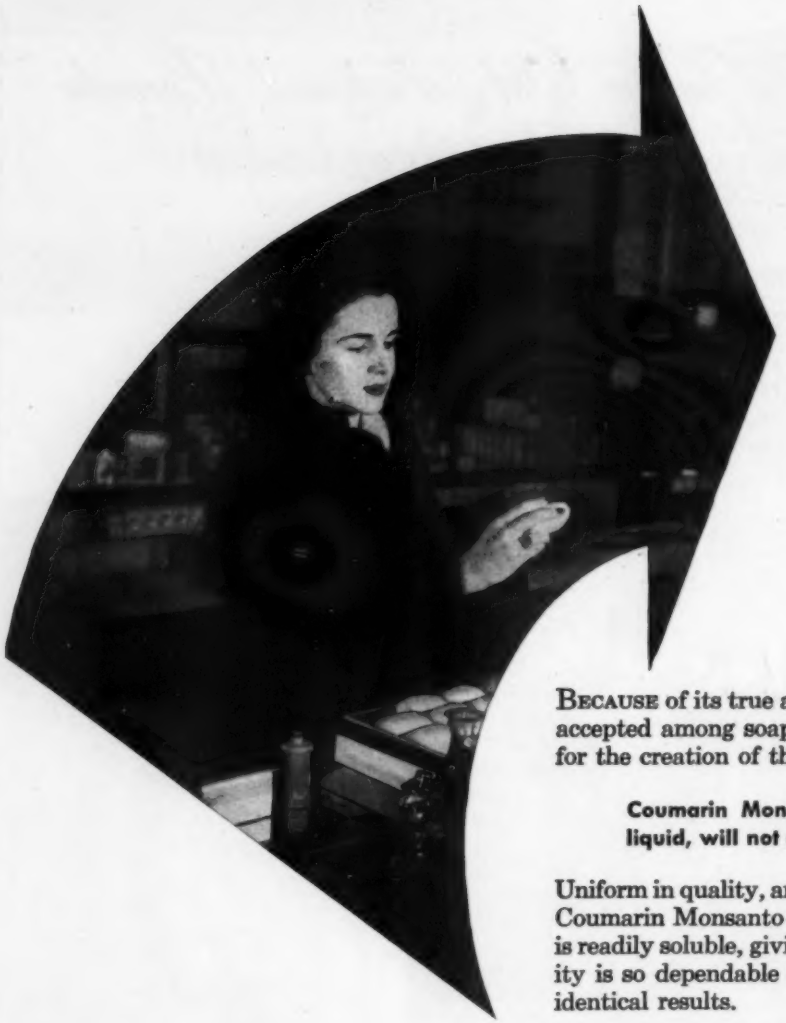

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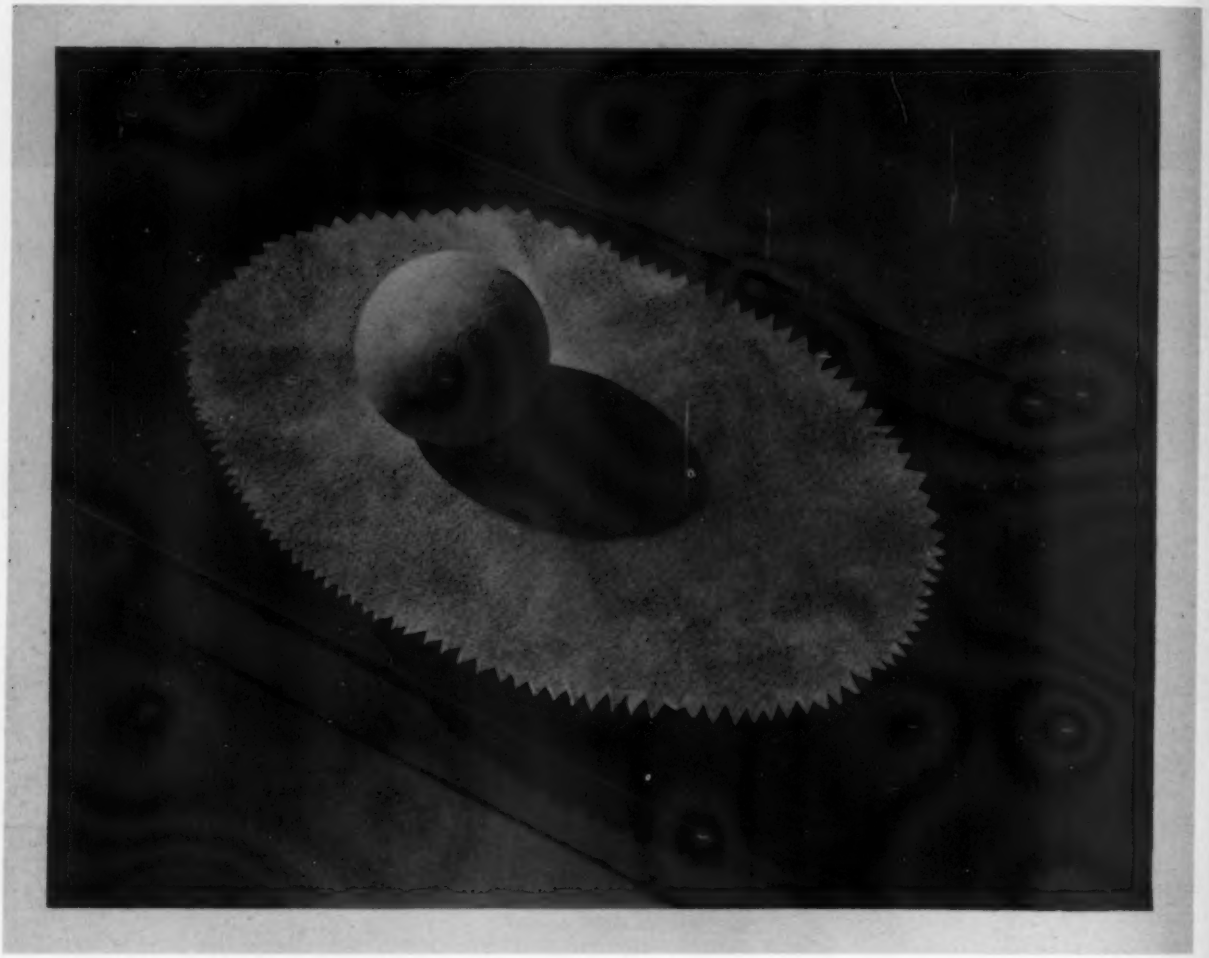

IN 1880 women used this powder ball and chamois to powder their noses . . . in 1945 cake make-up is the familiar symbol of feminine vanity. Who knows what postwar cosmetic formula may catch feminine fancy in the future? One thing is certain . . . women want the NEW.

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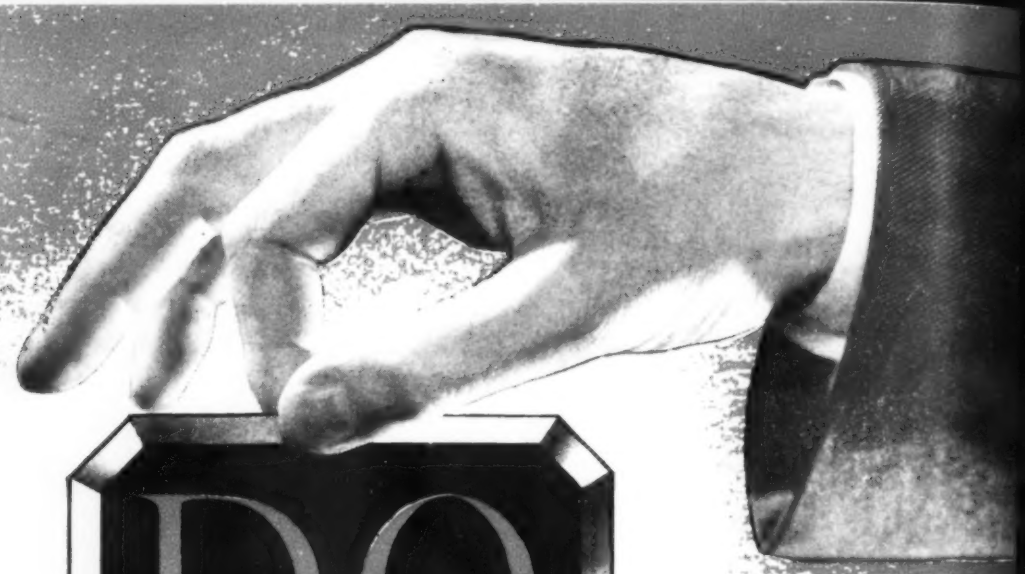

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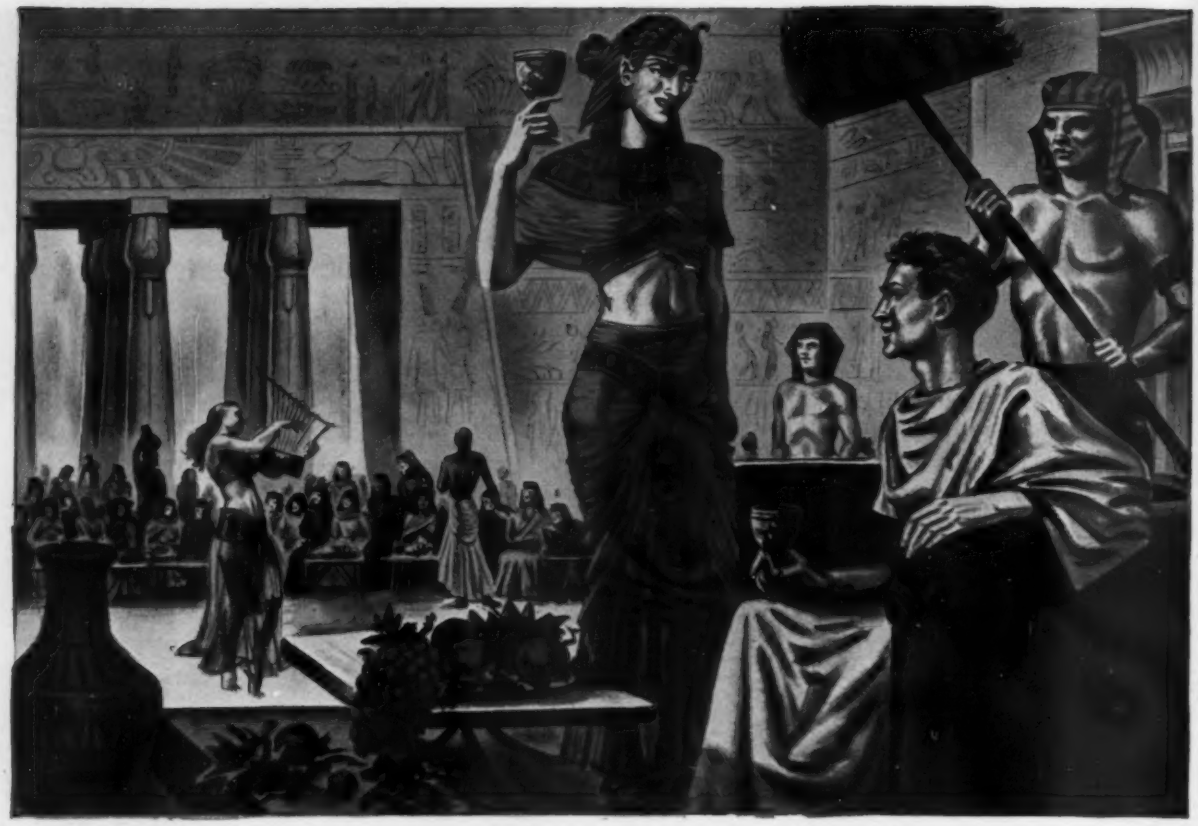

Cleopatra Drinks Her Pearl

WHEN, at a banquet in his honor, Mark Antony expressed his amazement over the costliness of the festivities, Cleopatra replied by dissolving a pearl valued at five million sisterii in a cup of mild acid, and drinking to the health of the Roman triumvir with the words: "My draught to Antony shall far exceed this!"

Although it had been known since ancient times that substances consisting largely of calcium salts would dissolve in acids, it was not until 1854, when Bunsen worked on calcium, that the properties of this element were established. Therewith the door was opened to the vast commercial production of calcium salts for medicine, pharmacy and industrial chemistry.

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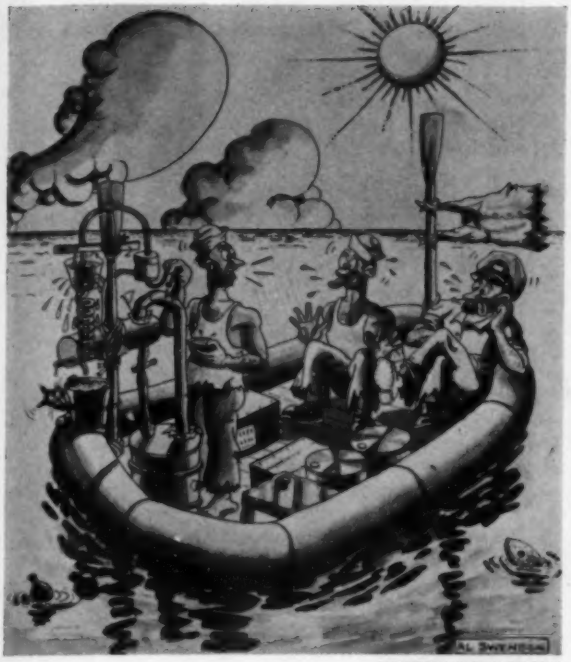


COURTESY MERCK REVIEW

"Gee, I'm sorry, fellers—as a chemist I'm a flop—I can't get any water out of this still—all I get is SCOTCH!"

KEEPING POSTED

Research in Botanical Therapy

THE FDA recently objected to a product containing black haw, cramp bark, blue cohash, helonias, wild yam, and sodium salicylate claiming that the preparation had no therapeutic value. However, the FDA finally decided that since their forces had been released from war work they would make a thorough investigation of the ingredients to determine whether or not they were therapeutically active. This action on the part of the FDA indicates clearly the need for research into the value of many of the botanical drugs which have been used empirically over a long period of years. Most of these ingredients have been used for a long time because they probably produced results. However, there is nothing in the literature to defend their use, and if the manufacturers marketing products containing cannot prove their value, attacks upon them are likely to succeed. Perhaps cooperative research into the value of various botanicals is the way to solve this problem. Certainly if the products are therapeutically useful, they should be proven so. For if they are not, then the FDA is right in demanding their removal from the market.

Chemical Production at Peak

DURING 1944, the chemical industry of this country achieved the highest production level of all time reaching a record output of $8,300,000,000 or roughly two and one-quarter times what it was in 1939, according to the Chemicals Bureau of WPB. This value of output compares with a value of $7,500,000,000 produced in 1943, and with $6,300,000,000 in 1942, and with a Bureau of Census figure of $3,700,000,000 for 1939. WPB says that: "One of the outstanding achievements of the chemical and pharmaceutical industries during 1944 was the sensational increase in the production of penicillin. It jumped from 9 billion units a month in December 1943, to the current monthly production of approximately 290 billion units. This has made it possible not only to meet, but actually to exceed anticipated military requirements by a substantial amount."

Actual construction costing $1,500,000,000 has taken place in the chemical industry since 1939, and new facilities are being authorized at a rate of $12,000,000 per month, or an estimated $150,000,000 for 1945. The entire expansion of $1,700,000,000, approved to date, was 88 per cent completed at the close of 1944.

Collapsible Tubes Tighten

THE collapsible tube situation will be very tight for the next six months or so as the result of the recent order which sharply restricts the amount of lead which makers of collapsible tubes can use. Tube manufacturers are ordered to use during the first quarter of 1945, only fifteen per cent of the amount which they used during the first six months of 1944. This means a reduction to thirty per cent of their consumption during the first quarter of 1944. Furthermore, collapsible tube manufacturers are not allowed to make any tubes for dental cleansing preparations until they have produced the same amount of tubes as they produced during the first quarter of 1944 for ointments and other preparations for opthalmic use, sulfa drugs in ointment and jelly form, diagnostic extracts (allergens), morphine or hypodermic injection, medicinal and pharmaceutical ointments, and preparations intended for introduction into the body orifices (nasal, rectal, vaginal, surgical jelly, etc.).

At a recent meeting of the Toiletries and Cosmetics Industry Advisory Committee to the WPB, committee members stated that medicinals, tooth paste, lather-type shaving cream, cream mascara and depilatories should have prior claim on the limited supply of collapsible tubes available for civilian use. All other items of toiletries and cosmetics that use either tubes or some other containers for packaging should be packed exclusively in other containers, the committee members said. The new collapsible tube order which limits the amount of lead available for tube manufacture, does not control the end use of tubes after providing that the medicinal preparations listed must be given 100 per cent of the first quarter of last year. Committee members evidently thought that some control over the balance of available tubes should be established so as they would be used for such products as really require tubes for packing.

Botanical Growth Research

AN INTERESTING project for centralization of experimental work in growing botanical drug plants has been undertaken by S. B. Penick & Co., which firm has established a "pilot farm" in the fertile soil belt of Pennsylvania. The company state that in other countries of the world pharmaceutical experimental stations, or drug plant experiment stations have been organized quite frequently, particularly in Germany, Hungary, and the Soviet Union.

The company for several years has cultivated large quantities of vital drug plants in several states with exceptional results under the pressure of war emergency. However, the long-range practicability of the work has not been given the study which is now planned by centralization of experiments in one location where adequate laboratory and field equipment are available.

The company has not changed its opinion that many drugs formerly imported will be imported again after the war, but the pilot farm should still prove of great value to users of botanical drugs and their derivatives since as certain wild-grown botanicals become increasingly scarce, cultivation may become necessary. Therefore, part of the project will be devoted to surveys of the possibilities of domesticating wild plant species. Such surveys will include agromony, plant selection and breeding, greenhouse forcing, and control of fungi and diseases. Experiments will be made to see if active principles can be increased, especially in drugs possessing alkaloidal and glycosidal properties. The first broad-scale commercial study of essential oil bearing plants is also scheduled.

Tonics and Laxatives

THE Food and Drug Administration is objecting to pill and tablet preparations which contain tonic and laxative ingredients. Recently the FDA issued the following:

"There are on the market a number of preparations in pill and tablet form containing small proportions of ferrous carbonate combined with one or more of the following drugs: strychnine sulfate, nux vomica extract, arsenic trioxide, mercuric chloride, and laxative drugs such as aloin.

"In many instances the term "blaud' forms a part of the name of the article. Sometimes this term is given special prominence by appearing first in the designation.

"The composition of these pills and tablets are usually such that they cannot serve where iron therapy is indicated because the dosage in which they can be safely administered, or the frequency and duration of administration is limited by the nature of the ingredients combined with the iron carbonate.

"It is the opinion of the Food and Drug Administration that such items are irrational and that it is impossible to provide adequate directions as provided by the law.

"It is suggested that pharmaceutical manufacturers who market such items give consideration to the advisability of abandoning their distribution."

The FDA has long objected to the use of laxatives over a period of time, claiming that they must only be used occasionally. Therefore, since tonic ingredients must be used over a period of time to be of benefit, the FDA objects to the combination of the two. It is this same line of reasoning that led the FDA to object to the incorporation of laxative ingredients in cold preparations, since, as a general rule preparations intended for relief of cold symptoms must be used over a period of two or more days. The FDA also objects to tonics which contain strychnine, arsenic, or mercury, if the products are sold to the general public for indiscriminate use. If the FDA is able to enforce its opinion with regard to products of the type mentioned, a number of preparations containing strychnine which have been on the market for a great many years will disappear or change their formulas.

Penicillin and A Bull

PENICILLIN—the drug that has gotten the most press of any product yet discovered—crashed into the press again in a big way when the life of Caumsett Spitfire, a prize Guernsey bull was cured from a severe attack of pneumonia by some 2,500,000 units of the drug dispensed by a kindly WPB. The fact that this much penicillin was allocated for this purpose gives a clear indication of the excellent status of penicillin supplies in this country which now stand at something like 290 billion units per month. Doubtless when and if all the projected penicillin plants of the country come into full capacity production there will be such a flood of this potent drug that severe competition as to price and quality will soon set in. Once the war is over, the demand for the drug is bound to decline sharply, and then the real battle for survival among the producers will occur.

What in 1945?

IF MANUFACTURERS in this industry are able to get supplies of raw materials and containers during the coming year, 1945 might prove to be the biggest year yet. Naturally a lot depends upon the length of the war in Europe and the steps taken at the end of it to reconvert the heavy industries. Now that reconversion plans have been put aside, the end of the war might result in a sudden curtailment of war orders and considerable unemployment for a protracted length of time. However, there are indications that the Government in Washington is determined to prevent large scale unemployment at all costs, and the main unemployment will result from the reshuffling of labor from the war plants to the peace time plants. It will be recalled that before war production attained anything like its present peak, it was necessary to move large numbers of workers from one part of the country to another. Also it was necessary for many people to change their modes of living to travel to and from these jobs which for a time they were reluctant to do. The overcoming of this inertia will delay full employment for some time after reconversion is undertaken. However, we can all hope that the delay will not be too great as the demand for the things that people have been unable to get for the past four years is certain to keep industry going at high rate of speed to come. Then also let us not for one moment forget that the Japanese still remain to be defeated and this might engage our full time and our full resources. Remember with Japan it is fight to the death. and Japan well knows it.

John Smith—Baseball Magnate

CHAS. Pfizer's vice-president John Lawrence Smith, of Brooklyn is now a baseball magnate. It seems that Branch Rickey, head man of the Brooklyn Dodgers, revealed this startling information when he introduced John to a large gathering of baseball scribes who were assembled January 25, at Bear Mountain Inn which for the third time will serve as Spring training headquarters for Dem Bums. From what Rickey told the scribes, John is not a very big magnate as yet, and certainly not in the class with Larry MacPhail and Dan Topping as John, together with Rickey and two other fellows bought a twenty-five per cent interest in the club. Apparently this gives John a sixteenth interest.

But the news was significant for another important reason which the Brooklyn "Eagle"—the only newspaper in the world whose sports writers write about baseball 365 days every year—didn't let it out of the bag, probably for fear of tipping the hand of the Dodgers to other baseball teams. But the New York papers did not fail to give it publicity, for we read in the *New York Sun*:

"It happens that if baseball, in its efforts to survive wartime hardships, becomes in need of a shot in the arm Rickey can produce the man to administer it. Smith is vice-president of Chas. Pfizer & Co. of Brooklyn, said to be the country's largest manufacturer of penicillin." And the *New York Journal-American* said:

"Smith's Chas. Pfizer & Co. is the world's largest producer of penicillin and Rickey was immediately suspected of having lured Smith into his fold so his potent drug could be used to bring baseball back to life."

But to those who really know John, this move toward ownership of the Dodgers is just part of his life work, which is to make Brooklyn the greatest country in the world. John is one of Brooklyn's outstanding patriots. So long as the United States and Brooklyn are Allies, John is perfectly willing to come to New York on rare occasions and also to go to Washington to aid in the war effort. But if any differences crept into diplomatic relations between Brooklyn and the United States, John would never cross the Bridge to New York and would probably spend his spare time rolling bandages for Brooklyn.

It is reported that John keeps increasing his production of penicillin so that the United States cannot possibly fight a war without Brooklyn on her side. Because of this, John hopes that the next meeting of the "Big Three" will take place at Ebbets Field, the home of the Dodgers, or at some Brooklyn Resort Hotel such as the Half Moon Hotel on the Boardwalk at Coney Island. John has a burning desire to show Churchill and Stalin some of the important places in his native land. He would like to have their visit scheduled for World Series time, but he is not too certain as to whether or not a World Series will be played in Brooklyn very soon. But particularly John wants to show these men Brooklyn's Borough Hall which John foresees as the future seat of world power. John says that if Churchill and Stalin do visit Brooklyn, all the Brooklynites will turn out in native dress in honor of the occasion.

John is said to be back of a movement to have everyone pronounce the word penicillin as it is pronounced by the natives of his homeland. John says that the pure Brooklynese pronounciation is "pen-oi-sin-lin."

Conventions Cancelled

THE cancellation of all industry meetings after February 1 attended by more than fifty, requested by War Mobilization Director James F. Byrnes, is being complied with by the various organizations in this industry. Even the annual Drug Trade Dinner, held at the Waldorf every March under the sponsorship of the Drug, Chemical and Allied Trades Section of the New York Board of Trade has been cancelled although it could well be considered as a local gathering which does not add to the transportation problem of the country. The drug and pharmaceutical manufacturers are engaged in essential war work, but the fact is that the cancellation of the conventions of these manufacturers will not interfere with the contribution which the manufacturers are making to the war effort.

Shortages Still in Sight

THE outlook in all directions is for closer restrictions on all critical materials for the next three to six months at least. This means that the final push is on in this country to all out until Germany is licked at which time there might be some easing up. However, it is well not to count on much easing up as soon as Germany is defeated since the job of defeating Japan is a tough one that might be more difficult than defeating Germany. Likewise, those in direct control of our war effort are not going to allow any easing off if they are likely again to miss their guess as they did in expecting that the European war would be over last September or October. If the Germans are going to fight to the last ditch and bring complete destruction to the homeland, we may be doubly certain that the Japanese will do the same thing.

While bottles and closures are expected to be in good supply, the lead order which so sharply curtailed production of collapsible tubes is a sample of what might be anticipated in other directions with no certain indications where the blows might fall with the possible exception of paper. From all indications a further curtailment in the consumption is certain since shipments of pulp are expected to be curtailed five per cent in a very short time and this will mean a ten to fifteen per cent curtailment of paper for civilian use.

The curtailment in the use of collapsible tubes might hit the industry much harder were it not for

the fact that aluminum is now in quite free supply due to the production that outran the requirements of the military. Aluminum tubes are available and a manufacturer of a shaving cream quite proudly stated this month that his shaving cream was so neutral that he could use aluminum tubes and thereby get around the lead shortage. However, he then added that his company did not have a tube of shaving cream in stock due to the fact that they could not get coconut oil even though they had an allocation entitling them to it. So-o-o—if it is not one thing it's another, and the time of substitution and switching is still not at an end.

U.S.P. Changes Approved

THE U. S. P. has approved the suggestion of using the English titles as the principal titles of the book, relegating the Latin titles to second place. This makes sense and confirms the opinion of the medical members the Revision Committee who have advocated this change for some years. In addition to the fact that the English titles will be much easier to use and to understand, a nice thing about the change is possibility of grouping the preparations of basic substances immediately after the drug or chemical involved. For example, the standards and assay methods for Digitalis Leaf would appear in the book in alphabetical order and, following it, the U. S. P. Digitalis products and preparations including Digitalis Capsules, Digitalis Tablets, Digitalis Injection, Digitalis Powder (standardized and adjusted to uniform potency), Digitalis Tincture, Digitoxin, Digitoxin Injection, Digitoxin Tablets, and so forth. To make such a convenient arrangement possible the only change in English titles, in this case, would be in the Tincture in which Tincture of Digitalis would become Digitalis Tincture. In the present U. S. P., to maintain an alphabetical position under the Latin titles, the Digitalis preparations are scattered throughout the book under class names such as Capsulae, Injectio, Tabellae, Tincture, and so forth. The bringing together of these related products will make the book easier to use for the doctor—who can very easily refer to all available forms of a particular drug for administration; to the manufacturer and to the pharmacist for various reasons.

Penicillin Price Again Lower

PENICILLIN has again been cut in price with the two leading makers selling the Government starting January at 80 cents per 100,000 units. The former price established last September was 95 cents, which was a reduction from $1.45 in August, and $1.60 in June. Last September we were told that the price would eventually go to 50 cents. Now the large producers assure us that it will eventually be "very cheap." The largest manufacturer, who sells the Government direct, but sells for civilian use through five pharmaceutical manufacturers, sells these pharmaceutical manufacturers at $1.15 per 100,000 units.

The penicillin that is now being produced is said to be sixty per cent pure, and has a yellowish color. Pure penicillin is being produced for experimental purposes and this is white in color and completely stable. The heavy demand for the drug by the Government makes impossible the complete purification of penicillin. After the war, it is very likely that the pure product will be the only one used as it is more potent as well as being stable.

John E. McKeen, general superintendent of Chas. Pfizer & Co., recently stated that "a great deal of work still remains to be done in solving the inherent problem of penicillin manufacture." Mr. McKeen revealed that Pfizer is producing more than 100 billion units per month, and in company with Commercial Solvents Corporation, which produces about fifty billion units per month, accounts for about half of all the penicillin produced in this country. In a paper delivered before the American Institute of Chemical Engineering, Mr. McKeen said that efforts must still be directed toward obtaining higher potencies of penicillin in the fermentation broth as this would save a great deal of labor, equipment. and material by reducing the volumes of broth that must be processed.

Stating the Ingredients

UNDER the Food, Drug, and Cosmetic Act, which requires that the names of active ingredients as well as the names and quantities of certain other drugs specifically mentioned in the law appear upon the label, many disputes have arisen as to which ingredients are really active and which are not. Many times the FDA has claimed that certain drugs were not present in sufficient quantity to be truly active ingredients. In such instances, some manufacturers merely listed all the ingredients of which the preparations were composed and let it go at that because they contended that there was nothing in the law to prevent this method of procedure. However, recently the FDA has been contending that since the law requires that only active ingredients and certain other drugs named in the law be mentioned with their quantities, if the manufacturer wants to list his inactive ingredients he should set them apart and state that they are inactive or inert ingredients. The FDA contends that if the label contains the names of all the ingredients the consumer has the right to believe that they are all active agents, unless designated as active or inert.

The FDA is backing up this contention by calling attention to the requirements of paragraph (c) of Section 502 which provides that words, statements, or other information required by the law to appear on the label or in the labelling must be given prominence and have conspicuousness comparable to other words, statements, designs, or devices used in the labeling. The FDA contends that some manufacturers are not allowing sufficient space to state the name of the active ingredients, the net weight, directions for use and other things that are required by the law, and are giving too much prominence to the name of the product, indications for use, and statements as to the effectiveness of the product.

Second Vitamin A Producer

THE Argentine Republic has become the second largest producer of vitamin A, now being second only to the United States. Manufacture of vitamin A was undertaken early in 1943 under the sponsorship of an American firm with an estimated trillion and a half units produced in 1943, and in the neighborhood of 20 trillion units produced in 1944. Source of the vitamin is from the sharks which abound in the waters of Argentina. The sharks are caught with hook and line and brought intact to 20 factories in the Mar del Plata and Necochea areas for processing and for the extraction of the vitamin A oil.

Vitamin A oils are also being produced at a new plant at Island Bay, Wellington, New Zealand, which plant during the first year of operation ended March 1944, produced 5,000 gallons of oil from sharks, groper, and ling. The shark livers supplied to the plant are entirely unsorted and the vitamin A potencies in different batches of oil vary from 2,000 to 55,000 international units per gram.

The A.M.A. and Amino Acids

"NUTRITIONISTS may have another lion by the tail," states Mrs. Miriam Zeller Gross in the February issue of "Hygeia," the lay magazine on health published by the American Medical Association, "The last time the lion's name was vitamins. This time it is amino acids."

And this statement apparently gives tersely the A. M. A. attitude on vitamins and amino acids. It has long been known that those in authority were very strongly in favor of rapid development in amino acids, but that they did not want these products to get to the point where they would be exploited in the manner in which they claim vitamins have been exploited. Mrs. Gross continues:

"The last lion got away from the control of food scientists and rampaged high, wide and handsome, ridden by the advertisers and the promoters. until coralled by the joint efforts of the medical profession, the Government, and food scientists. These same food scientists are now watching developments and hoping that the lessons learned at the height of the vitamin craze will help prevent the exploitation of nutrition's recent findings. They also hope that otherwise intelligent citizens will not create a furor for amino acids as they did for vitamins by snatching at tablets, capsules and drops to correct everything from toothache to inability to hang pictures straight.

"Like the vitamins, amino acids are designed primarily for sick people unable to get adequate nourishment through regular food sources. Also like vitamins, amino acids are usually obtained by eating the proper foods. People who suffer from amino acid hunger usually do so through ignorance or carelessness.

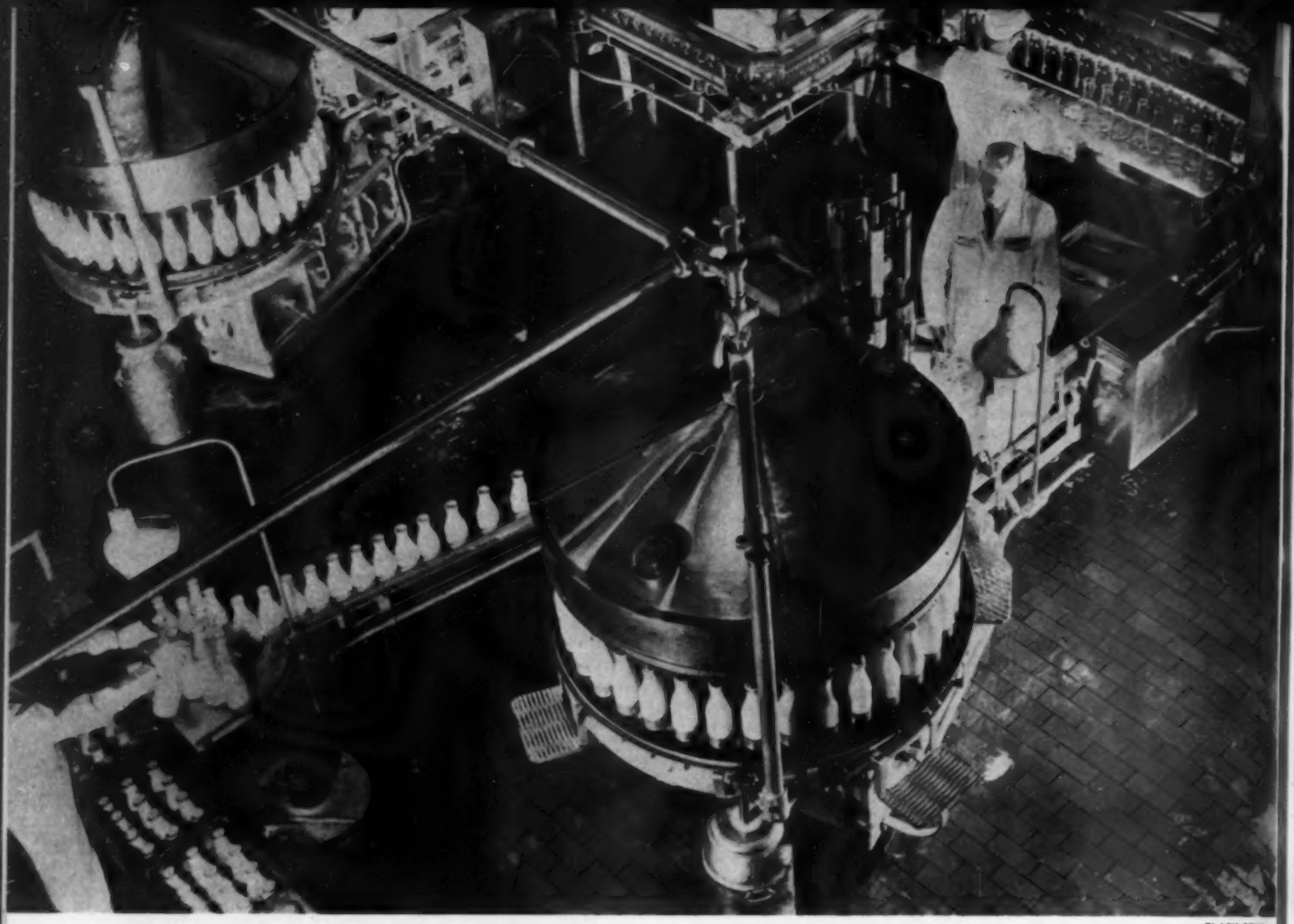
"Proteins must be broken up into other, smaller substances before our bodies can assimilate them. These tiny protein fractions which food scientists think of as 'building blocks' are called amino acids."

This point of view is typical of organized medicine. People are careless or ignorant if they do not see a doctor all the time and get sick. There is nothing wrong with self-medication with vitamins if a person visits a physician and the physician finds nothing wrong with him as is quite often the case. If a person takes vitamins and feels better, there is no reason why he shouldn't take them and there is no reason why a manufacturer should not advocate that he try them. It is all very well to know that vitamins, amino acids and other things necessary to good health can be obtained by eating balanced diets, but it is most difficult to obtain that diet, especially in war time. We are afraid that when the amino acids get to the point at which they can be dispensed in easy-to-take form, the A. M. A. or anybody else will stop the public from buying them and taking them in an effort to improve their state of health.

As we have said before, amino acids, when more is learned of them and their need and their preparation for handy dosage, are the next wave in therapeutics. All leading drug manufacturers are working feverishly to develop products of this type, and forward-looking chemical manufacturers are investigating intensively methods of synthesizing such amino acids as are believed to be needed. When they are available, the medical profession will use them first for everything of which a patient might complain. Then when the lay public learns of the benefit of these products, the doctors will start damning them in all public pronouncements while prescribing them on all occasions where they have the remotest idea that they might be of any benefit. It is the same thing all over again—the doctor is the only one who knows anything about anything including nutrition.

Quinacrine Overproduced

THE extent to which quinacrine (atabrine) has been produced in this country is indicated by the fact that this product has been removed from allocation and there are now no Government restrictions. The WPB states that "in view of the lessened demands by the military, production of quinacrine will be less than 50 per cent of the 1944 output. However, facilities will be maintained as a safety measure should military demands increase." This is just another product that was grossly overproduced as result of estimates of projected use by the military which never materialized. It will be recalled that sulfa drugs were produced at the unheard rate of 10,000,000 pounds during 1943 only to fall to less than half that figure in 1944 with a still lower production forecast for 1945. The demand of the military for supplies of DDT is, we are informed producing a similar situation. Certainly no one has any quarrel with the military for obtaining all the supplies that they believe will be necessary, but something must be radically wrong with the brains or with the knowledge possessed by those who are doing the estimating. We were told a year ago that the military was cancelling large orders for sulfa drugs, our informant telling us at that time that the Army had enough sulfa drugs to dust every soldier in every army from head to foot. Think of the production facilities that have been created for the production of these items which are certain to lie idle in very large part probably from now on. It is true that such facilities can be used for production of other chemicals, but what are the chemicals that could not be produced with facilities that existed before this enormous and largely unnecessary expansion took place?



BLACK STAR

Part of the loose talk which is indulged in in an effort to "debunk" vitamins involves statements such as "eat plenty of vegetables, drink a pint of milk daily . . . ." If all of America's vegetables were divided equally, each person would receive about 70 grams per day against the 200 grams needed. If every American were to receive a pint of milk daily, America's milk production would have to be increased 100 per cent.

Vitamins and Nutrition

By L. STAMBOVSKY

THERE seems to be some evidence of nervousness in the vitamin industry, primarily among the proprietary group, i.e. those which are advertised directly to the public. The ethical manufacturers are not so much concerned. This anxiety has been expressed by such doubts as, "have vitamins been oversold—are vitamins really built upon a bedrock of therapeutic performance—is the immense popularity of vitamins a transient fad—will new products such as the amino-acids or hormones displace nutritional biochemicals", etc.

We shall discuss a few of the factors influential in the production of apprehension regarding the future. The first major casuality to occur is the withdrawal of Stams and Stan B. These two products have dropped out of the race with repercussions amounting to several millions of dollars loss. Naturally this event alarmed other operators in the proprietary field. However, the decision of Standard Brands to abandon the lay market does not signify, that in their opinion, the vitamin business is dying. Far from it. The correct interpretation is that this company decided they can earn more money faster, by making and selling nutritional biochemicals to those who compound and market the finished product. As a matter of fact, they were actually in competition with their own accounts—a factor

that may have been weighty in their retirement.

Further uncertainty has been engendered by repeated, powerful and vicious attacks by the medical profession. Ninety per cent of this barrage has been aimed at the proprietary manufacturers. Is such an assault justified? The answer is partly but not entirely affirmative. The motivation is quite human and will become apparent as soon as certain provocative facts are unveiled. Here are a few examples of depreciation at work; the writer personally has encountered many patients who mentioned vitamins to their physician with the thought that possibly he would prescribe same. An explosive response almost invariably follows, "vitamins are the bunk, a fraud, would be forgotten in a year", or something else equally ridiculous. Or we see constant references in the lay press—newspapers, magazines, etc., to the effect that America's diet is all sufficient and does not require artifical supplementation with vitamins. "Eat plenty of vegetables, drink a pint of milk daily and other time worn recommendations", are the stock conclusion of these articles. But where the vegetables or milk or other foodstuffs are to come from, the authors fail to state.

It is unfortunate that these writers, qualified or otherwise, are unaware of the fact that if all the vegetables in America were equally divided among everyone, there would be apportioned about 70 grams per person. The necessary amount to supply even a degree of vital factors is 200 grams per person per day. Or if every American obtained a pint of milk daily, as is so correctly suggested, America's milk production would have to be increased 100%—no slight task even in normal times. Further damaging publicity is demonstrated by the following experiment which of course was highly publicized. Ruffin & Cayer, J1. A.M.A. 11-25-44, report that the administration of vitamin supplements to a group of apparently normal persons, consuming the usual American diet, had no demonstrable beneficial effect. This study is of limited value for a number of reasons. First, the subjects were medical students and technicians. By no stretch of the imagination does this group represent a cross section of America, either educationally or economically. Undoubtedly they possessed a better knowledge of diet than average and were in a better position financially to gratify this knowledge. Second, the term, "good health", used in this study is vague. The authors fail to state the prevalence of dental caries among these subjects, or the number of colds suffered per year, or if they were troubled with constipation or headaches, or the status of their hair and skin and eyes. Third, the supplements consisted of the following formula; Vit. A, 7500 units, Vit. D, 600 units, Thiamin, 3 mgm., Riboflavin, 4.5 mgm., Ascorbic acid, 82.5 mgm., nicotinamide, 30 mgm. plus 6 tablets of liver or yeast extract taken daily. It is or should be known, that the therapeutic dose of vitamins is ten to twenty times the maintenance dose. The dosage given above are merely prophylactic doses. If these men were deficient, it would be practically impossible for them to note any improvement from such an impotent regime. By quoting only parts of this investigation, the public is given the impression that vitamins are worthless and a waste of time and money. It should also be mentioned that Ruffin and Cayer assert that, "the use of vitamins by healthy persons is wide-spread in this country". *This is not fact.* From observations made by the writer at the point of distribution, the retail drug counter, he can claim authoritatively that not one person in a thousand who is in good health, buys or takes vitamins. It just is not human nature to be bothered with pills when one is "in the pink."

Another somewhat parallel investigation was conducted by Tisdall & McCreary, J1. C.M.A., 49:5, 6-43. An easily and early detectable sign of riboflavin deficiency is corneal vascularization, i.e., the invasion of the normally avascular white area known as the cornea, by visible capillaries. This is usually accompanied by rapid visual fatigue, diminished acuity, itching and sandy sensations and lacrimation. Out of 198 healthy members of the R.C.A.F. examined, 90.8% evidenced corneal invasion. Only one man was found to be free of this sign. It cannot be too strongly stressed that these men are, "the cream of the crop", and their diet is supposedly of the best. Yet assays of their rations prior to these examinations revealed an average of only 1.6 mgm. riboflavin daily, as against 2.5 to 3 mgm. required under civilian conditions. Ninety of these men with the most severe symptoms, including ocular fatigue, burning, sandy eyes and lacrimation were selected for further tests. Twenty-eight of this group were given 9.9 mgm. riboflavin daily for two months. Seventy per cent showed complete clearing of cornea and other ocular improvement. Of 21 subjects treated likewise for one month, 28% claimed improvement. The balance were fed placebos, of which only one felt any remission of symptoms.

It is strange that of these two studies quoted, only the former was given lay publicity. Many other innuendoes and aspersions have been directed against the vitamin industry. Space forbids further expansion of same. However, those who are genuinely familiar with the science of nutrition know the truth, which is, quote, D.C.I. 1-42. 50-1, "nutritional deficiencies and errors are directly or indirectly, in a major degree, etiologic in nearly all pathology—irrespective of whether such be evidence as neoplastic disease, bacterial invasion, toxemia, functional dysbalance, or just an untimely wearing out of one or more organs". Mountains of references have been and are still being published amply supporting these sweeping claims.

The causes of the discussed antagonism will be illuminated by the following; no one questions that full blown pathology belongs exclusively to the physician. But among the patrons of Aesculapius will be found millions of persons who are not actually sick but neither are they entirely well—who are without evident or detectable disease. Among such syndromes will be found constipation, headaches, hyperacidity (heart-

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Pitfalls of Lipstick Manufacture

By H. HILFER*

LIPSTICKS are highly specialized materials from a manufacturing point of view. The tendency on the part of the distributor has been to hand over this portion of his manufacture to private label houses with experience in lipstick lines so that those problems may be handled by properly trained people. If we delved into the reasons behind this modus operandi we would find that the difficulties encountered would break down into several categories.

The primary difficulty is lack of the proper equipment. Manufacture of lipsticks involves more operations than almost any other product. In addition to mixing equipment which is available at most plants it is also necessary to use efficient types of mills so that colors may be incorporated efficiently into the vehicle. This is accomplished by the use of a roller mill, an ointment mill and in some cases by a colloid mill. In any case the grinding should be fine enough to preclude the possibility of the occurrence of unground pigments in the final product. From the standpoint of actual manufacture there are various methods followed. Many manufacturers grind the pigments into a portion of the oils—usually castor oil to form a thin paste. This concentrate is then added to the remainder of the vehicle and mixed thoroughly until homogeneous. Many other manufacturers prepare the vehicle beforehand and grind the colors into the vehicle directly.

There are numerous pros and cons concerning these methods which cannot be gone into at too great length in this article but it seems worth while to mention that the proponents of the latter method find it easier to

*Associated Distributors, Inc.

make color corrections when necessary. Color correction is a very important part of lipstick manufacture since it is almost always indicated when a batch is made. In order to retain their uniformity from batch to batch the ratio of color to vehicle in lipsticks should always remain the same. If it is therefore necessary to add color to the batch it also becomes necessary to add an amount of the vehicle corresponding to the amount of color added.

After the shade has been matched satisfactorily the lipstick mass is now ready for moulding, a process which requires additional equipment. Most important are the moulds which have to be made to fit the case into which the lipstick is finally packaged. In addition an arrangement must be made to keep the lipstick mass warm and in a liquid state while it is being poured into the moulds. The arrangement generally used is to keep the container holding the lipstick mass either in a steam table or partially immersed in hot water. The stirring may be accomplished by the use of a small automatic slow moving stirrer. Heating over long periods of time without any accompanying stirring would cause the pigments to drop out of suspension. Therefore the necessity for this operation. Slow stirring is important since otherwise there may be air incorporated which might evidence itself as defects in the final product. A method which may be used to preclude this possibility is to subject the lipstick mass to reduced pressure for a short while. This, incidentally, is the surest way to remove any adsorbed air. Introduction of this process would require specialized equipment also.

The second difficulty to be overcome in the manufacture of lipsticks is in the manufacture and formulation of the product itself. The old standby that has been the base for lipstick vehicles for many years has been castor oil. Castor is in a class by itself as far as vegetable oils, or for that matter any glycerides, are concerned. It is the only natural oil containing a free hydroxy group and for that reason is well suited as a solvent or carrier for the "bromo acids" which impart the stain to the lips. When this product became scarce insofar as its use in cosmetics was concerned substitutions were not easy to make. Aside from its being unique in the possession of a free hydroxy group—a fact which couldn't be duplicated by other synthetic materials—it also had the highest viscosity of any of the natural oils. It was, therefore, difficult to duplicate both these characteristics. Manufacturers therefore could not merely find a substance or group of substances which could be used in the formula instead of castor oil but had to resort to a complete reformulation of the product in order to achieve a similar duplicate from a standpoint of its physical characteristics. We all realize how hazardous it is to change a product which already has an appreciable consumer acceptance. It therefore seemed most desirable to allow the manufacturer with the greatest experience with lipsticks to undertake this task.

Aside from this difficulty which is an admittedly abnormal one we also have other difficulties which remain with us all the time. Lipsticks are applied to one of the most sensitive areas on the body and therefore if any of the materials are inclined to be the least bit irritating it would very likely make itself evident soon after application. Causes of lipstick irritation are generally attributed to either the perfume or the over generous use of bromo acids. A good knowledge of these materials and how they act becomes a necessity. There have been many articles written on the various raw materials used in lipstick manufacture and their properties in a lipstick. With all due respect to the various authors and to the various good ideas set forth there seems to be no substitute for actual experience and the empirical knowledge that accomplishes it. It is difficult to explain, for example, why some lipsticks, which seem to possess all the required attributes of hardness and ease of application should turn soft to the touch on long standing. This type of phenomenon cannot be foretold by the neophyte but an individual with experience in the handling of this product could draw from his reserve of accumulated empirical data.

The matching of shades from batch to batch is also not easy. Here again the possessor of a trained eye is needed, not only to see the differences but to know how to correct them when they occur. From time to time there have appeared mechanical devices whose purpose it has been to measure color differences in opaque materials. I believe these machines, most of them based on the use of a photoelectric cell with a series of colored screens to absorb different fractions of the reflected light are a step forward in color control but I do not think that any of them as yet has displaced the trained eye as a more efficient medium for distinction of color differences. In my own experience along these lines I have found that in some colors particularly the reds which show very little difference on the photoelectric cell show a much greater difference to the eye and on the other hand the blues seem to be more capable of being measured with a greater degree of accuracy by the photoelectric cell. The above applies only to the equipment where differences in the shades are measured mechanically without the use of the eye and in no way applies to equipment designed to keep conditions under which colors are compared by the eye constant. There seem to be several very good pieces of equipment of that sort available.

We now come to perhaps the most important phase of lipstick manufacture—the assembly of the completed product. To the uninitiated it appears a simple matter to slip the lipstick into the holder, turn it down and cover with a cap. Actually it amounts to a great deal more than that. The cases first must be kept clean. Otherwise a new operation would necessarily be introduced. If it is to be assembled by hand the operators must be taught to handle the case with one hand and the lipstick with the other and under no circumstances to touch the case with the hand that handles the lipstick. The most convenient system is to have an assembly line on which one operator places the sticks in their cases, another flames them to remove any finger marks

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THE ESSENTIAL OIL MUDDLE

The F. E. A. plans for resuming imports of essential oils from France are held to be unsatisfactory and destructive.

THERE has recently been much talk of resuming imports of essential oils from France, but not much has been said as to how this was going to be accomplished. Now a plan has been devised by the U. S. Commercial Company of the Federal Economic Administration which is far from satisfactory to the essential oil dealers in this country who formerly imported these oils and resold them to the consumers in this country. Established essential oil dealers here have done business over a long period of years with certain producers in France. These dealers have each had their own suppliers abroad who delivered to them the particular types of oils that they wanted. A rose oil, or many other oils from one French producer will be quite a different article than that produced by another French distiller. Therefore it is impossible for any one not intimately acquainted with the essential oil business in France to purchase these oils with any degree of intelligence.

However, the USCC is undertaking to do all the buying of these oils for the people in this country who want them. And the USCC is paying no attention to the fact that certain producers in France sold their oils through particular houses in this country and not through every Tom, Dick, and Harry that wanted to place an order with them in France. The fact is that these relationships between established American houses and established French distillers apparently mean nothing to the USCC which is attempting to throw the situation wide open to everyone, and to do the purchasing itself so that the situation will surely be wide open.

Over the name of P. A. McDermott, Chief, General Commodities Division, USCC, a letter has been broadcast to everyone closely or remotely interested in the importation of essential oils from France. The letter states that "Pending restoration of conditions permitting normal private trade, members of the Essential Oils Industry have requested U. S. Commercial Company to assist in the importation of essential oils and floral products from France." The large well-established essential oil dealers deny the fact that they requested the USCC to act in their behalf. They state that they did not want any such arrangement worked out, but they had to submit to it at the insistence of the Government. The letter continues:

Pursuant to such requests U.S. Commercial Company has made arrangements to send a representative to France who will act in behalf of importers who desire such assistance. His operations will include the contacting of French suppliers named by such importers and the expediting of shipments. So that this representative may know the requirements of American importers, there has been prepared the attached form of agreement which, when duly executed by you and the U. S. Commercial Company, will serve the dual purpose of providing necessary complete information and of establishing contractual relations with respect to the products purchased."

The form which is to be filled out by those who want oils brought for them in a masterpiece of stupidity. The importer who wants the oils bought for him gives the "type and description of the essential oils," "the names and addresses of French suppliers for whose products offers are to be made," "maximum quantities in kilos," and "maximum prices (in U. S. dollars per kilo) f.o.b. foreign port of shipment." Therefore an importer must name a price for such products as he wants without having any idea as to what the market for these products is. These products are always bought "at the market." Under the terms of the agreement such as the USCC wants filled out, one importer might name a price of $1,000 per kilo, while another might get the goods by offering a "maximum" price of $1,005 per kilo. Under the circumstances, importers who fill out these forms are committing themselves to acting in the dark since they have no way of telling how the USCC representative is going to act.

Furthermore, the importer "agrees to buy from the U. S. Commercial Company under the terms of its purchase agreements with the French sellers, *condition 'as is,'* and agrees to pay therefore U. S. Commercial Company's entire costs *plus a 3% handling charge.*" (Italics ours), Furthermore, the importer "within five days from date of written notice of acceptance of this agreement by U. S. Commercial Company, shall open (inform satisfactory to U. S. Commercial Company) an irrevocable, domestic letter of credit in favor of U. S. Commercial Company in the amount of one hundred and ten per cent (110%) of the total purchase price computed upon the basis of 'maximum quantities' and 'maximum prices.' Such letter of credit shall provide for an expiration date nine months from the date of issuance."

Further requirements in the agreement of particular interest are that "U. S. Commercial Company's aforesaid invoices and statements as to type and description, quality and source, shall be final. . . . The undersigned shall assert no claim against U. S. Commercial Company with respect to quality or for any other alleged failure of consideration hereunder. U. S. Commercial Company makes no warranty or representations with respect to essential oils sold hereunder and the undersigned agrees to hold U. S. Commercial Company harmless from all loss, cost, damage or expense incurred by U. S. Commercial Company arising directly or indirectly in consequence of any act or failure to act under this contract or under any contract entered into with French sellers pursuant thereto."

In other words, the essential oil importers are asked to commit themselves to a pig in a poke since they must put in their money and take what they get. Furthermore, they are asked to pay 3 per cent handling charge which might easily mean the difference between profit and loss when these goods are finally resold here by these importers. They must take the goods as is, and accept the word of the USCC that the goods are what was ordered. Therefore it would at least be expected that the people charged with buying these oils would be real experts with an intimate knowlegde of essential oils and floral products, and with an intimate knowledge of conditions surrounding the production of these products in France. But what do we find? We find that the products are to be handled at this end by C. J. Horney, head of the Drug and Chemical Branch of the General Commodities Division. And the one who is to do the buying in France is a man named Gerald Strauss, who is reported to have been with the USCC for something over a year, but who formerly had been sent to France in 1937 by the Studebaker Company, but who later represented in France some American cosmetic company by the name of Tokalon. Therefore, the Government has sent to France to do the buying of these high-priced and intricate products an automobile man with a flitting experience in the French office of an American cosmetic manufacturing firm which, after twenty years in the business, we had never heard of until now. And the manufacture of cosmetics and perfumes is an entirely different business than the importation of essential oils and floral products. The manufacturer of cosmetics and perfumes, as a rule has very little knowledge of the sources of essential oils and floral products of various types, and a very scant knowledge of the use of these materials.

The prices called for in the agreement are in terms of dollars which means that the rate of exchange will be at the official rate of twenty francs for the dollar, while French currency can be bought in France for 220 francs for the dollar, and there is fifteen per cent discount on blocked currency to be used for this sort of business. The ridiculous part of the whole thing is that the essential oil importers do not need anyone to go to France to buy for them. The importers can write and cable to France and arrange terms to their satisfaction for such goods as are available. In this way they can immediately settle the whole matter of price, quality, shipping date, and other incidentals. All that these importers want from the U. S. Government is shipping space from the Maritime Commission. Large numbers of ships are going from this country to bring supplies to France. All that the essential oil importers want is a small corner in one of these ships to bring them some of the French products on the return voyage. The matter of inland transportation in France is a problem, but it is felt that this could be settled by the French.

It is said that it is the expressed desire of the French Government that trade with people in foreign countries be carried on by French nationals and not by the French Government, yet our Government undertakes to do business in just the opposite way.

The only ones who can benefit from the plan are the American houses whose parent houses are French. These people have always imported their finished compounds from their parent houses in France. They can do so under this type of agreement with the USCC. It matters little to them if they have to pay three per cent handling charge since they are not going to resell them for use in the industry, but they are going to convert them into finished products to be sold to the public.

Essential oil importers say that the plan cannot be satisfactory, and many of them are ignoring it. They saw what happened in Africa when the USCC brought in spices. A large importer of coriander seed paid the same price for many tons of the material as some small man paid for one bag. Many of the essential dealers see in this plan a scheme to level things in still another direction. Legitimate houses who have built up a well founded business over the years are going to be deprived of their right to do business in the way they have done over the years. Their methods of conducting their businesses so as to make good profits on their knowledge and on the contacts that they have built up over the years are to be changed by an agency of the Government which thinks that these methods are not suited to the brave new world of tomorrow.

New Products for Removing Pigmented Make-up Bases

By JOSEPH KALISH

With the expanding use of heavily pigmented make-up bases, the problem of facial cleansing has acquired new importance. The very nature of these products demands that they be removed thoroughly at the end of the day and at the same time makes this removal with customary cleansing agents unsatisfactory.

Where base is not being used, the cleansing problem has to do only with the removal of residual face powder, rouge, and the normal accumulation of grime from the face. Traditional soap and water do a good job of emulsifying the oils and washing away the small amount of solids deposited upon but not seriously imbedded in the skin. With well superfatted soaps the usual objection that soaps dry the skin (because of their hydrolytic alkali) is sufficiently minimized. Cleansing creams work in a different manner and are equally effective. Both liquefying, non-emuslified cleansing creams and the cold-cream type act, we believe, by simply dissolving and mixing with oils on the skin which act as binders for solid particles of dirt and make-up. There may be some additional emulsifying action by cold creams, but this is probably small.

Broadly, three types of make-up bases are currently popular. These are oil suspensions of pigments, pigmented creams, and cake make-up. The first consists of zinc oxide and titanium dioxide along with insoluble coloring agents mixed with a suitable oil, usually vegetable oil for emollient effect. Pigment content is high, depending upon the consistency desired and often exceeds 50 per cent. Cream make-up, foundation cream, is based upon an emollient cold cream formula with as much white and colored pigments as can be ground into the base. Cake make-up involves the most difficult removal problem since as applied to the face it consists of pigment particles made waterproof by means of wax and oil coating. These particles are formed into a cake by means of pressure and a binding agent, a wetting agent usually being included to permit easy transfer to the wet sponge.

Now the usual soap or oil cleansers are less effective than desired in removing heavily pigmented coatings. Soap and water will eventually remove the oily coating left by oil and cream make-up bases, but emulsification is not easy where a desired degree of water resistance has been reached. Moreover, the pigment usually con-

sists largely of zinc oxide which reacts with the soap to form an insoluble zinc soap. This reaction may only take place to a minor extent, but it occurs to a sufficient extent to inactivate the soap in the region of the pigment particles, where action should be strongest. Cleansing creams, liquefying or cold cream type, can disperse cake make-up pigments only slowly and usually do not do a thorough job; they are somewhat better in removing oil and cream bases, with which they mix well, but usually lack penetrating power and do not seek out pigment collecting in crevices.

The need is real, then, for a new type of effective cleanser that will not only remove strongly adherent make-up bases, but will also be sufficiently mild in action for every-day use.

A product of this type can be made as clear liquid, a thick liquid emulsion, or as a soft cream. It will differ from other cosmetic cleansers in that it will be based upon synthetic detergents and may only incidentally include oils for cleansing. Major requirements are the following: high detergent power; no skin irritation; effective emollient action.

The wetting detergent, emulsifying agent must be chosen from among those known to be suitable for cosmetic use on the grounds of suitable color and odor, low toxicity and low irritation. It should preferably be very soluble so that substantial amounts may be kept in solution. At this point it is useful to recall a point that we have continually emphasized in the formulation of creams and other emulsions—the emulsifying agent itself is always far more effective when used in combination with an auxiliary agent. This auxiliary not only thickens the product, but it also increases the stability of the emulsion and apparently the activity of the primary agent. For this reason, an auxiliary should be an important part of the formulation; among the more useful ones are cetyl, stearyl, and oleyl alcohols and especially the *non-emsulifying* (free from soap) esters of fatty acids with polyatomic alcohols such as glycol laurate, glyceryl monostearate, and polyglycol esters. Incidentally, these compounds also provide virtually all of the emollience required in the product. As a general rule, a mixture containing twenty per cent of the auxiliary, two per cent of the wetting agent, the rest being water, will give a solid or liquid emulsion, depending upon the auxiliary used. This is *not* the cleansing product we wish to formulate, since the active agent is present only in sufficient amount to emulsify the ester or fatty alcohol. A really active product will contain on the order of ten per cent of wetting agent. This point must be kept in mind: a solid cream may result from a certain combination of water, emulsifying agent and auxiliary; if the proportion of emulsifying agent is increased, the resulting product may well be softer than the original. Finally, synthetic detergents other than soap are usually inert to zinc and other heavy metals, as well as to hard water, and will not give alkaline solutions in water. They should not be affected by the zinc oxide that is being removed from the skin.

Mineral oil may or may not be included in the formulation, depending upon the formulator's feeling as to its value in an emulsifying cleanser. It is probably useful. Its presence in an emulsion also confers an attractive whiteness on the product. Vegetable oil may also be added to increase emollience but it also adds the otherwise unnecessary consideration of adequate preservation.

Because of the almost infinite variety of wetting agents, auxiliary products, and solvents that can be utilized in infinite combination, we can give no set formulation, but can offer suggestions that should be useful.

A clear liquid product can consist only of a liquid auxiliary such as glycol laurate or oleyl alcohol in which is dissolved from ten to twenty-five per cent of the wetting agent with or without the addition of about ten per cent of light mineral oil. A better preparation

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SHAVING SOAPS

By E. G. THOMSSEN, Ph.D., Consulting Chemist

In a series of articles on shaving media, in this periodical during the past months, we have at various times discussed brushless shaving creams and lather shaving creams. No discussion of shaving media is complete unless it includes shaving soaps. These soaps comprise shaving sticks, shaving cakes, filled shaving bowls and shaving powder. The one-time popularity of the sticks, cakes and powders was displaced rather slowly at first and then at a much faster rate by the lather and no-lather creams, in spite of shaving soaps being the most economical. The stick and powder, which far outdistanced shaving creams two or three decades ago, have now been largely replaced by the use of these creams. The shaving cake however continued to be popular with many shavers, because the barber did not resort very extensively to creams and continued in most cases to use the cake and old style mug. The economy appeal evidently was the barber's deciding factor. Just as many self shavers continue to use the old styled razor instead of the safety razor, the same stubborn adherence to the mug and shaving brush continued to be the custom of many self shavers. In more recent years the use of brush and mug soap has had great impetus. This was occasioned by certain soap manufacturers and leading perfumers presenting shaving soap in ready filled bowls or containers, along with other male cosmetic preparations.

The making of shaving soaps requires considerably more equipment than that needed to manufacture creams. For this reason the manufacture of soaps is largely limited to soap makers. Certain soapers make these soaps under private label. There are then far more brands on the market than there are soap manufacturers who specialize in this type of soap. It is a wise policy to have shaving soaps in the small lots usually required made under private brand. It is advisable, though, since several soaps of this category are often made by one manufacturer, for the owner of the trade-mark to maintain at least some individuality by controlling his perfume, design of container, odor and shape of soap cake special soap dye. In certain cases, details such as these may be forgotten and later regretted. If the sale of the soap is large enough it should even be possible to control the formula for the soap itself.

In originating a soap base for a shaving stick, it is desirable that the soap should be soft enough to permit a sufficient quantity thereof to adhere to the moistened beard, as it is applied by rubbing it over the face and neck. The soap should feel soft, rather than harsh, especially after the stick has been used two or three times. The soap should, furthermore, be mild, superfatted, preferably white in color and hold its shape without shrinking or warping. A potash soap base made from stearic acid and coconut oil to which has been added a sufficient quantity of glycerine as an emollient, meets these qualities.

A typical formula for a frame of soap then is:

1050 lbs.	Stearic Acid (Double Pressed)
300 "	Coconut Oil (Cochin Grade)
550 "	Potash Lye 50° B.
40 "	Soda Lye 45° B.
100 "	Glycerine C.P.

To make this soap the stearic acid is melted ahead of time by indirect heat in a kettle or tank constructed of metal which is not attacked by the acid. The coconut oil, glycerine and soda lye are mixed together in a suitable sized crutcher for about fifteen minutes, after which 100 lbs. of the potash lye are added to complete the saponification of the coconut oil. This will take about fifteen minutes longer. It is well to run the crutcher during this saponification at slow speed. Then the rest of the potash lye is run on top of the soap. With the crutcher in motion, first at slow speed, later at higher speeds, the molten stearic acid is run into the mixer as a slow steady stream, care being taken to check any swelling of the soap with cold water, at the same time stopping the addition of stearic acid, and by reversing the crutcher screw direction so as to push the mass downward. After all the stearic acid is added, the soap is mixed for about half an hour. A uniform test sample representing about a pound of soap is drawn. This is analyzed for free alkali or free fatty acid by the usual method and should show about 2 per cent free fatty acid, as oleic acid, when the soap is at the properly finished point. Adjustments by the addition of potash lye or stearic acid should be made, mixing well after each addition. The lye may be diluted with four or five parts of water. It is also desirable to drop some phenolphthalein indicator on a cooled bit of the soap. This should not show any small specks of uncombined or undistributed alkali. When the soap is properly finished it is dropped into a soap frame, the sides and ends of which are preferably protected with a heavy piece of white cloth or canvas, suspended from the top to the bottom of the frame in order to protect the white soap from rust spots or other soil. The framed soap is permitted to cool completely. It is then slabbed, chipped and dried to 15 per cent moisture. The drying operation should not dry the soap unevenly, especially along the

edges of the chips for these may show up as hard specks in the later milling operations. The soap base is then milled with the addition of about six ounces of titanium dioxide per 100 pounds of soap base and a suitable amount of perfume. It is finished by plodding, shaping and cutting, in the usual manner, after which it is wapped and packaged as desired.

Shaving cakes comprise the common round soap discs and the ready filled mugs or bowls. This soap is made with the same equipment and by the same method as that used for the making of shaving sticks. It is necessary, however, to have a somewhat different composition since the soap used for this purpose must be pressed and must be of such a nature that it will take proper shape without adhering to the soap die. The main difference in composition lies in the soap containing more coconut oil, tallow and caustic soda. Even with these changes, it is sometimes customary to mill in with the base, such as this, up to 25 per cent of regular toilet soap base for this facilitates the milling, plodding and pressing operations even though it does produce a somewhat less copious, less lasting lather.

A typical formula for the mug shaving soap to make up a frame of soap is as follows:

270 lbs. Tallow (Bleached Extra)
162 " Coconut Oil (Cochin Grade)
312 " Stearic Acid (Double Pressed)
48 " Soda Lye 40° B.
108 " Potash Lye 38° B.

The method of making this mug shaving soap is the same as that just described above except that in this case the tallow, which is not present in the previous soap, is saponified with the coconut oil and soda lye, together with part of the potash lye. The finished soap is chipped and when the moisture content is dried down to about 15 per cent it is amalgamated with perfume of the desired concentration, about 0.3 per cent titanium dioxide and color if desired. It is then milled, plodded and pressed into the desired shaped cakes. If the cakes are to be filled into bowls it is very necessary that the relationship of the shape of the container, the size of the cake and the soap shrinkage be carefully considered. Anyone, who has examined filled mugs on the shelves of retail stores, has observed cases where the soap cake has shrunk and warped all out of proportion to the container shape and size and thereby has spoiled the appearance of the product. For this reason it is customary to use containers which converge toward the bottom. As the soap cake shrinks in a container of such construction, it settles toward the bottom and the shrinkage is not so evident. Some manufacturers take the precaution of holding the cakes on trays for several weeks before filling and fastening them into the bowls. In examining filled bowls sold at the lower priced brackets, especially in syndicate stores, many cases were recently noted where it was attempted to make a short cut and economize by filling the containers with shaving cake soap that had not been milled or plodded.

(Continued on page 264)

COURTESY GELATIN PRODUCTS CO.

Newer Uses for Gelatin

By M. A. LESSER

Time has proved that the gelatin capsule, invented back in 1833 by Mothes, is probably the most efficient single-dose package available for dispensing unpleasant-tasting medicines. Methods for making gelatin capsules have been improved tremendously during that time, and they are now widely used in packaging other than therapeutic substances.

GELATIN is a far more versatile substance than is generally realized. Although it has been employed in medicinal preparations for many generations, it is only within the last few years that its tremendous potentialities have begun to be appreciated. With its value as an emulsifier and packaging material already quite well established, gelatin shows great promise as a blood plasma substitute, as a means of prolonging the action of certain drugs, as an agent and adjunct to the treatment of wounds, and as a vehicle for vitamins.

Undoubtedly the greatest interest in gelatin centers around its employment as a substitute for blood plasma. This interest is enhanced, not only by the war-born need for such a substance, but also by the possibility that plasma may not be so readily available at a low cost in the post-bellum period when people will not be so eager to become blood donors. Singularly enough, the idea of using gelatin for emergency use in place of blood is not especially new. Back in 1915, Hogan[1] reported beneficial effects from intravenous injections in several cases of shock.

However, because of lack of dependable results from the grades of gelatin then available, this use was not studied further. Under the pressure of war needs, purer and more uniform grades of gelatin were made available. Since gelatin, even of the highest grade, is not a pure substance, but a mixture that varies considerably when prepared in different plants and even when prepared in the same plant,[2] the production of a suitable type of gelatin presented considerable difficulties. Nonetheless the problem appears to have been solved. Today special grades of gelatin prepared from the long bones of cattle (e.g. ossein gelatin) are used by most workers.

Considerable experimental work by many investigators has served to demonstrate the efficacy of gelatin solutions for the treatment of induced hemorrhage and shock in laboratory animals.[3, 3, 4, 5, 6, 7, 8, 9]

With many essential points clarified by these animal studies, but with certain factors still under investigation, gelatin solutions were ready for clinical trial under controlled conditions.

Employing both 6 per cent and 4 per cent gelatin in normal saline solution, Koop and his associates[10, 11] made clinical observations on 100 patients; the solutions being used therapeutically in the treatment of acute

hemorrhagic shock and edematous states and as a general postoperative measure in surgical cases. No pyrogenic or antigenic reactions were seen and venous pressure was consistently elevated and cardiac output increased. As a result of this work they concluded that intravenous gelatin solutions are easily and safely administered to human subjects; the material being an effective agent in the treatment of at least the early stages of hemorrhagic shock. After major operative procedures, the administration of gelatin solutions produces a favorable response similar to that seen with plasma infusion.

During the course of these studies, Koop and his coworkers also noted that the administration of gelatin to patients with certain types of edema is followed by a diuresis which is accompanied by clinical improvement. Other workers,[12] in experimental studies on dogs, have also reported the diuretic effect of gelatin injections.

In a discussion of the comparative value of blood substitutes, Smyth[13] stated that he and Jacobson had used a gelatin solution in 30 cases of surgical shock and that in all of them there had been a satisfactory clinical improvement in the blood pressure and in the rate and volume of the pulse. These observations, he noted, indicate that this substance, which is readily available, can be given safely, is stable, is nonantigenic and therefore warrants further trial as a plasma substitute. More recently Kozoll and his associates[14] reported that studies on 52 patients showed that the administration of 1000 cc. of a 5 per cent gelatin solution was effective in the treatment of shock. No untoward effects were noted except an increase in the sedimentation rate which, however, did not influence the clinical picture.

The status of such gelatin solutions is such as to have warranted a special report by the National Research Council.[15] The report stressed that gelatin solutions for intravenous use should meet definite physicochemical requirements and should be prepared only in specially constructed plants under the most rigid control. When suitable precautions are taken, pyrogen-free solutions of gelatin can be prepared and such solutions have been administered without late toxic reactions being observed. However, the Council points out, it must be recognized that, when available, whole blood, plasma or human serum albumin are the solutions of choice to be used in the treatment of hemorrhage and shock.

Although, in the Council's opinion, gelatin solutions probably do not contribute significantly to nutrition, there is some evidence that at least a portion of the injected gelatin is metabolized, since there is a substantial increase in nonprotein nitrogen excretion following injections.[16]

For many years attempts have been made to prolong the effects of certain quick-acting drugs, like epinephrine (adrenalin), so as to decrease the number of injections required and to secure other desired actions. Suspensions in oil appeared to offer a solution, but many workers were not satisfied with the results. In 1939, Spain, Straus and Fuchs[17] reported a method for making an easily self-administered, slowly absorbed gelatin-epinephrine mixture which permitted a sharp reduction in number of injections required to control severe paroxysms of bronchial asthma. In a vehicle consisting of gelatin, sodium chloride, chlorbutanol sodium bisulfite, glycerine and water, epinephrine was employed in a concentration of 1:500, twice the strength employed with aqueous solutions. Despite this higher concentration, undesired effects like pallor, palpitation and tremor were both infrequent and delayed. The gelatin-epinephrine mixture proved especially valuable for allergic patients who could not tolerate an effective dose of the usual 1:1,000 aqueous solution of epinephrine. The principal disadvantage of this new combination was the need for warming the preparation to liquefy the jel before its administration subcutaneously.

In evaluating this preparation, Lockey[18] expressed the opinion that 1:500 epinephrine in gelatin was an excellent addition to the drugs used in the treatment of intractable asthma and various acute and prolonged allergic conditions.

The need for an easily employed, slowly acting epinephrine preparation for maintaining blood pressure and cardiac output in the treatment of traumatic and other forms of shock as well as for the therapy of allergies prompted Abramson[19] to make a further improvement on gelatin vehicles. He found that an 8.5 per cent solution of gelatin plus 15 per cent urea becomes and remains liquid at room temperature when removed from the refrigerator and that such a mixture does not readily support the growth of bacteria. Laboratory experiments and clinical studies showed that this preparation is suitable for the administration of epinephrine as well as of other drugs and biologically active substances where prolongation of the pharmacological effect is desired.

In their 1939 paper, Spain and his coworkers had suggested that their gelatin vehicle might be used to minimize the risk with other therapeutic agents administered by injection, such as various toxoids, horse serum and pollen extracts. In 1941, they[20] used this vehicle as a carrier for ragweed extract; the preparation being made by adding one part of a standardized ragweed extract to four parts of the sterile gelatin mixture. With this combination, a greater tolerance for ragweed extract was noted, higher maximum dosages could be given with safety and only half the number of injections were required. More effective relief was obtained following treatment with the gelatin-ragweed extracts which proved especially useful in the treatment of hay fever patients so sensitive as to poorly tolerate the usual aqueous pollen therapy.

The inconvenience of having to warm the preparation persisted, however, but in 1943 this was overcome by autoclaving the gelatin mixture at 20 pounds pressure for one and one-quarter hours. By this process of thermolysis, the product is much less viscous at room temperature than the previously employed

(*Continued on page 260*)

The Package that Helps to Sell the Product is

Clearsite*

The first requisite of **any** package is PROTECTION. Clearsite resilience gives **shatterproof** protection. Clearsite is a **seamless,** molded container, able to withstand accidents that would ruin container and contents if made of other less sturdy materials, yet it still retains its distinctive, attractive appearance. Clearsite also rates high in eye-appeal. Bear in mind you get protection-when-needed, plus visibility when your container **is**

TRANSPARENT OR OPAQUE

The crystal clear walls of Clearsite permits attractive products to sell themselves. The opaque Clearsite affords opacity in any desired color and also shields products that need it, or that do not have eye-appeal.

SHATTERPROOF and SEAMLESS

The attractive colorful labeling of Clearsite applied in process of manufacture, lends itself to a wide range of products; staples, novelties, powders, metal goods, oils and pastes. A sample demonstrates its values!

*Reg. U. S. Pat. Off.

Our Package Design Engineers are available for Suggestions,

CELLUPLASTIC CORP.

CELLUPLASTIC CORPORATION

EXTRUSION AND INJECTION MOLDERS

60 AVENUE L NEWARK, N. J.

WEST COAST REPRESENTATIVES CONTAINER SERVICE CO., 1266 North Western Avenue, Los Angeles 27, Cal.

Packaging and Selling

Cosmetic Statistics

The year end has brought in its wake, as it always does, a maddening swirl of requests for statistics on cosmetic sales. In most cases we are glad to comply but it must be confessed that we resent the "stand and deliver" attitude which some seekers of information adopt when they go after figures of this kind. We have been keeping a consistent record of cosmetic sales since 1933 and, as a consequence, we can lay claim to being as well informed as anybody. But when some half-baked agency "research" department calls up to inquire as to the sales of face powder by the drug store on the corner of Fifth and Main in Wichita, and then registers great indignation because we don't know, we feel we have a just gripe. Chances are the agency just knocked off its first cosmetic account that morning and has sent the "research" department scurrying to make them all experts on cosmetic merchandising overnight. But, even if the client is impressed, we're not, and we don't hesitate to tell them so. The result is that they go away in a huff to conduct their "research" at somebody else's expense and the further result, usually, is that they're back on the phone a day or two later in a much more chastened mood to take what we have with a somewhat better appreciation of what they're getting.

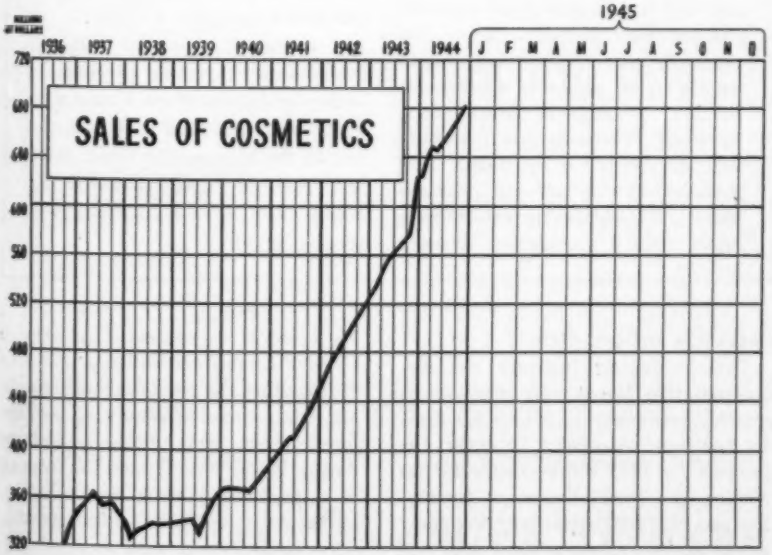
For statistics on cosmetic sales are hard to get and if you don't believe it, ask the Department of Commerce or the Toilet Goods Association. The Department made a biennial study of cosmetic figures in its Census of Manufactures, and although it started out bravely by the time the last study was made in 1939, even the most ardent admirers of these figures were forced to confess that they were no longer even approximately accurate. Chief reason for this fall from grace was the fact that the figures were taken at "producer's level" and that was never clearly defined and meant different things to different people.

Then came the war and the Department of Commerce dropped the census and the Toilet Goods Association made an abortive attempt to carry on. The T.G.A. got out a swell census form cleaning up many of the out-dated classifications which had cluttered the Department of Commerce forms. And what was even more important, it asked that "Values should be stated at consumer retail list prices regardless of whether goods are sold on that basis or not." The intelligent questionnaires went out early in 1941, asking for 1940 figures, and at this writing, they still aren't in.

Now, we understand that the Department of Commerce is getting set to take the job on again and we can only hope that the project will arouse some enthusiasm and cooperation. For no census is any better than the industry it attempts to picture statistically and the mark of an established, grown up industry is the completeness of the figures available on it. There is no trouble, for example, getting accurate statistics on the automobile industry or the steel industry. But in cosmetics. . . .

Well, in the first place, not to be modest about it, there are our figures. In the second place there are the T.G.A. figures, somewhat lower than ours. Then there is an O.W.I. release of April 23, 1944 giving sales through 1943 and for 1941, '42 and '43, using our published figures, although without credit. Next there is a W.P.B. release of January 2, 1945, cleared through O.W.I., which gives cosmetic production as $219,000,000 in 1939 and $408,000,000 in 1944. Then there is another Department of Commerce job, widely used by statisticians, which gives "consumption expenditures" in toilet articles and preparations as $725,000,000 in 1942, and $601,500,000 in 1941, $476,100,000 in 1939; and yet another which gives $570,000,000 in 1941 and $483,700,000 in 1939. Incidentally, the census figure for 1939 was $155,460,886.

There are other figures around but this is just a slight sampling from the best sources to convey some slight idea of just how confused the whole thing is and why we get slightly annoyed when somebody asks us for our figures and then says BUT, they don't agree with this or that. Under the present conditions, there's no reason why they should. We think they're as good as any presently existing and we see no need to justify them or apologize for them. When better figures are available on sales of cosmetics we'll be the first to cry Hosannah.



Retail sales of cosmetics for the twelve months ended with November totaled $682,270,000. This compares with $674,902,000 for the twelve-month period ending with October, and with $594,729,000 for the twelve-month period ending with November, 1943.

Private Brands

With the announcement that Smith, Kline & French was discontinuing its private brand lines comes some interesting figures on private brand operations. According to J. Mahlon Buck, president, the company's private brand sales represented four to five per cent of total sales and turnover of national brands has proved to be seven to ten times faster than turnover of private brand merchandise. Grant R. Graham, vice-president, asserted that many retail failures are attributable to overstocking with wholesalers' brands and that such merchandise under forced sale is worth only two cents per package. H. C. Van Arsdale, sales manager, said that manufacturers were justified in their complaints that wholesalers who represented them also competed with them and that retailers were justified in their complaints that wholesalers load them up with merchandise which is not as easily salable as nationally known brands.

More on Private Brands

More retailers believe they are in a stronger competitive position by stocking nationally advertised brands on a quality and style basis than they would be if they emphasized unbranded merchandise on a price basis, Robert L. Tebeau of Dun & Bradstreet, Inc., told the Wholesale Dry Goods Institute, Inc., according to a story in the *New York Times*.

In answer to the question, "Which type of merchandise places you in the stronger competitive position, nationally advertised brands on the basis of quality and style, or unbranded merchandise on the basis of price?" approximately five out of seven retailers checked branded merchandise. Variety stores, however, disagreed and were divided on a fifty-fifty basis. Area-wise, retailers in the South Atlantic States gave nationally advertised brands the smallest margin over the unbranded merchandise.

Another question asked of retailers was whether or not they favored "selective distribution," namely, the policy of manufacturers servicing retailers through selected wholesale distributors with branded lines confined to a single retailer in a trade area. Retailers voted about three to two for this policy, with department stores favoring it more strongly. Variety stores, as a group, voted 2 to 1 against it.

Packaging Forum

By Josephine von Miklos

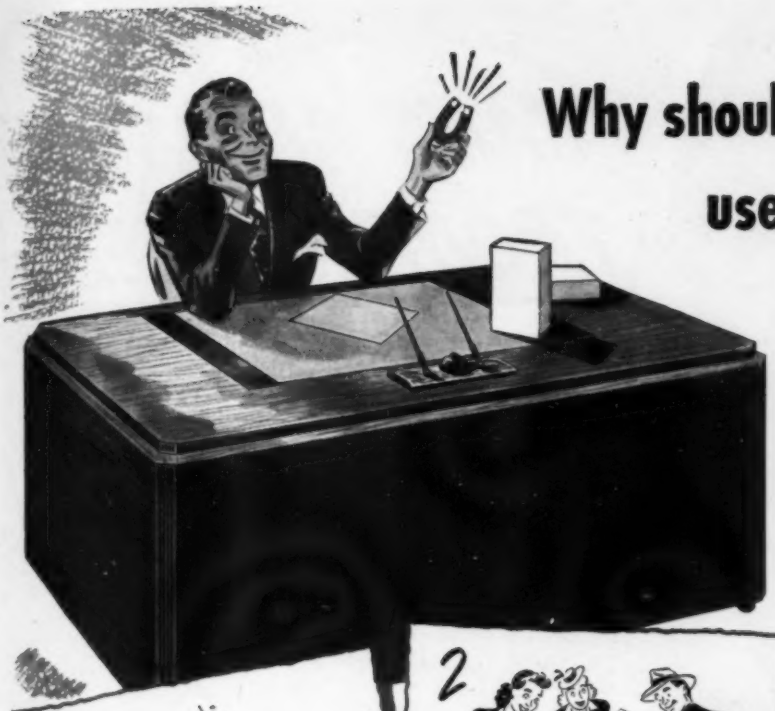
It looks like a pretty bleak picture for packaging materials for the next few months to come. Every telephone call, every letter from a supplier says NO. But we are not really discouraged. Perhaps we have been spoiled and are at last fully aware that plasma bottles, airplane parts, boxes for ammunitions are more important than perfume bottles, plastic closures and set-up boxes. Still, this industry is a good deal luckier than most other civilian businesses. And that is, perhaps, not only due to the fact that the government has left cosmetics relatively alone, but probably to a much larger extent to an amazing degree of ingenuity displayed by the industry itself. We do hear a lot of griping, it is true; but griping seems to be one of those basic motors of the democratic machines, out of which streams the endless power for improvement, change and new ideas. Were it not for the fact of war itself with everything it implies, we might be inclined to say, it hasn't hurt us to have to think harder and cut corners faster and keep on swimming even if the weight of our feet sometimes drags us below the surface.

With basic materials so short, we predict a considerable increase in surface decoration. Printers, silkscreeners, lithographers will be busy as all get-out these coming months, and only the manpower shortage will dampen their output. What this means in terms of basic design is, as we see it, an emphatic warning for caution. A design in twelve colors, let us say, is no substitute for one in four shades, unless the design itself is conceived with taste and discrimination. We say this because we have lately seen a few pretty amazing horrors expressed in printers' inks. The excuse somehow still is in the word Victorian; just as some decorators have slapped nothing but pink and white stripes and blackamoors on their walls because there wasn't enough good furniture to go around . . . wall paper is scarce, and so are drapes and fabrics . . . so an abundance of tricky colors is sometimes being substituted for an abundance of ideas. While we don't advocate that every domestic package must have the classic austerity of Chanel, . . . although, personally, I am very much inclined to say that the beauty of that design has never been surpassed, . . . there should be ways and means to do a first rate job without too many tricks and curlicues. On the other hand, if we only had a real barometer of customers' acceptance of cosmetic package designs! The advertising departments will, of course, say, it's the ads that make a line sell; the sales department will put it on the power of its antics; with a few exceptions the heads of the firm will not admit, it's the package that sells the goods, although they have come a long way in realizing that no matter how powerful their advertising, how great the pressure of sales, how fine the contents, the outward appearance of a package means at least half the battle. But no matter how clever the designer and how cooperative the firm . . . or how willing to accept the designer's brainstorms . . . we are beginning to understand in much wider areas than ever before that good taste is not reserved for high priced merchandise and that in times of social upheaval such as these, nothing is so un-chic as chic.

Packaging Institute Plans

The Packaging Institute has announced that the regular semi-annual meeting previously scheduled for April 18, has been cancelled. However, the projects for 1945 will be continued including the establishment of twenty-five sets of specifications covering packaging materials. completion and distribution of the Glass Packaging Manual, the development of basic statistics showing the importance of the Packaging Institute in American industry; a series of conferences with the objective of compiling and publishing an accurate and comprehensive history of package development and testing procedures during World War II; and the forming of a small but qualified Packaging Institute Advisory Board, which, meeting periodically, would serve as a valuable source of accurate and unbiased information on all phases of package design, production and use.

Why should a folding carton user keep a magnet on his desk?



1

TO REMIND HIMSELF that one important way to get extra sales without extra sales expense is to see that his cartons have more point-of-sale "magnetism"...more power-of-attraction than his competitors'.

2

MILLIONS OF DOLLARS' WORTH of merchandise is sold, every year, on display, alone. In thousands of stores, impulse or "pick up" sales account for more than 50% of the volume rung up on the cash registers.

3

TOMORROW, THAT PERCENTAGE will climb even higher. More supermarkets, more self-serve departments, more open shelf and counter displays will put a bigger than ever share of the selling job on your package.

4

GET THE HELP of Gardner-Richardson specialists in putting more point-of-sale magnetism in your folding cartons. Let us demonstrate that package effectiveness is not a matter of greater cost but of ideas.

DON'T BE AFRAID TO CHANGE YOUR PACKAGE. "Sacred cows" belong in pastures, not in competitive battles on the nation's shelves and counters. Turn your folding cartons over to our staff of engineers, designers, merchandising experts. Put it up to them to come through with suggestions that will give your folding cartons more eye and buy appeal. Maybe they can also show you how to make your cartons more attractive to the customer, easier to use—with a lock top or pouring spout, for instance. Or how to simplify set up, speed up filling machine performance. Write, today. Tell us how and where you want help. It's yours, without obligation. Or ask one of our representatives to call.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard, MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

CANS ARE SO TROUBLE-FREE

... ideal for PACKAGING DRUGS!

Cans don't break . . . they prevent spoiled labels . . . are tops for product protection, sales appeal

• "Let me tell you why, as a drug manufacturer, I prefer drugs in *cans* . . . and why cans prevent headaches for druggists and housewives, too.

"Cans don't break. They're safe when handled with wet hands. And there's no danger of labels smearing or coming off, because the labels can be lithographed right on the cans. Moreover, cans are waterproof . . . protect contents from bathroom moisture. Light, compact cans are economical to ship. They save space on crowded drugstore shelves. And their smart labels and bright colors catch the eye . . . have lots of sales appeal.

"Yes, sir . . . I've always preferred most of my products in *cans*. So have my customers. We'll all hail the day when cans are back again!"

5 MAJOR REASONS
Why Housewives Prefer DRUGS IN CANS

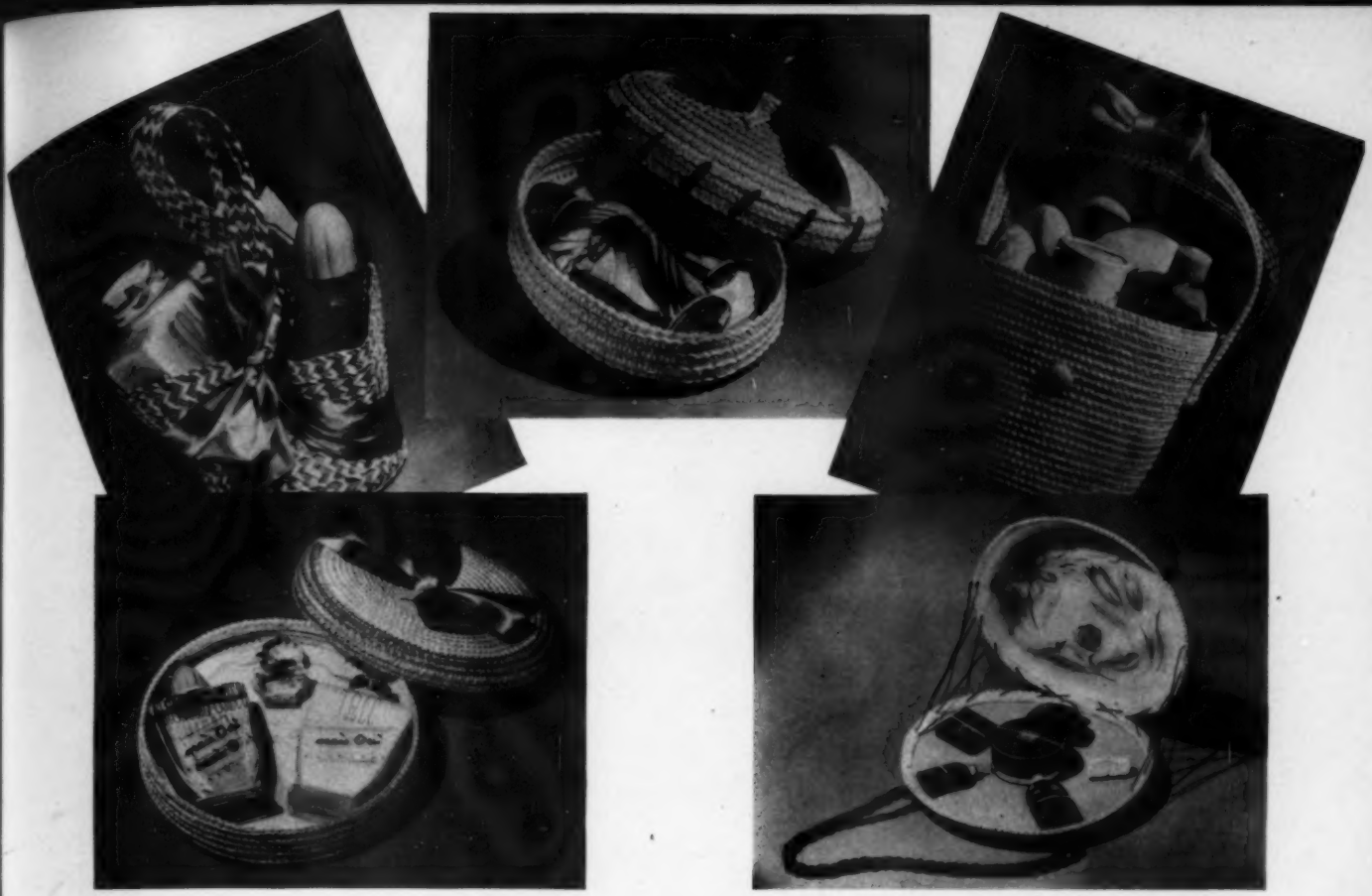
1. Safe when handled with wet hands.
2. Labels printed on cans can't drop off.
3. Cans protect from bathroom moisture.
4. They're convenient.
5. . . . And economical.

BIG AD CAMPAIGN PLUGS CANS!

Every month more than 30,000,000 printed messages about cans are read by families throughout the U.S.A. Full-page, full-color ads appear regularly in Sunday newspapers and ten national magazines to keep consumers thinking of the advantages of cans.

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN



Basket Packages

Undoubtedly the paper shortage and the limitation on paper this year for holding gift combinations has inspired the new Bourjois Easter line of basket packages. If this is so, it's good because the new line is smart, effective and extremely practical since the little baskets of one kind and another have a certain re-use value after the contents have been removed. For small gift purposes there is Evening in Paris perfume and eau de cologne tucked in a woven straw pouch which retails for $1.25 plus tax. Gay, and fresh as spring itself is a whimsical Easter basket holding Evening in Paris cologne and talcum for $2.75. For $3.00 there is an Easter basket, convoy for Eau Parfumee and talc with the vivacious fragrance of Mais Oui. A charming sewing basket which makes an excellent Easter gift is filled with Courage perfume and concentrated cologne for $4.75. A captivating idea is a gay sewing basket of woven straw in which nestle Mais Qui perfume, eau parfumee and talc, retailing at $5.50. A cunning hamper of woven straw holding Lilting fragrance, face powder, talcum, beauty and bath soap, for $6.00. Sheer whimsey is the Easter gift with an eye to summer use as a beach bag—or a knitting bag. It holds Evening in Paris perfume, eau de cologne, face powder, rouge, lipstick and sachet, and retails at $10. Gay, clever decor by Leonard is used as a lining for some of the packages.

The new Bourjois Easter basket packages are undoubtedly a forerunner of what the well-dressed line will wear in the future!

Up to this point the boys who had had large supplies fabricated could continue to pack and sell combination packages, while those who made them as they needed them were through. If and when the order comes through it will have the effect of equalizing a competitive situation, for presumably, as of the date of the order, combination packages of paperboard will be prohibited and thus everything fabricated will be frozen.

The shipping container situation will probably be tightened by another ten per cent on both cosmetics and dentifrices, thus making cosmetics 54 per cent and dentifrices 63 per cent of the base period.

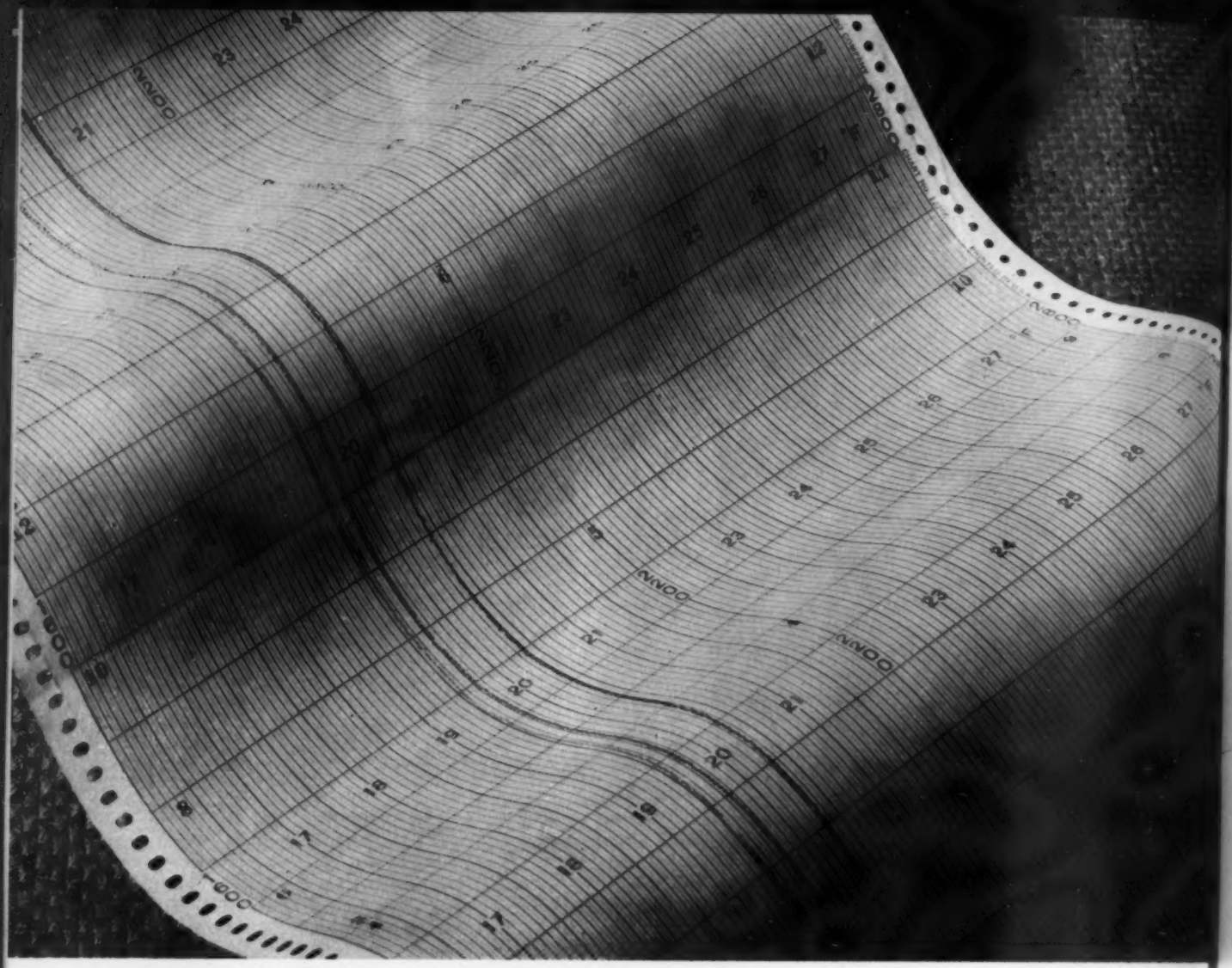
Add Vitamin Statistics

Ted Strong, speaking before a McKesson meeting, "revealed that vitamin sales in 1943 totaled $179,850,000 of which $76,076,931 was for multivitamins. Figures for eight months of 1944 showed multiple-vitamin sales of $69,990,763 which would indicate a total volume for the year in this category of approximately $100,000,000."

Tightening Up

Everybody who reads the papers knows that things have tightened up again all along the line. This is particularly true, so far as this industry is concerned, in the field of the packaging materials. The whole situation is dramatized by the cut in lead for tubes for lead was one of those things everybody took for granted. But for the first quarter of 1945 the collapsible tube manufacturer is permitted to use only 15 per cent of the amount of lead which he used during the first half of 1944. The only exception is that he may use lead for tubes to go to overseas post exchanges and ship's service departments. Further restrictions are placed upon the tube manufacturer in the following way.

Attached to the order is a schedule listing the following products: 1. Ointments and other preparations for opthalmic use; 2. Sulfa drugs in ointment and jelly form; 3. Diagnostic extracts (allergens); 4. Morphine or hypodermic injection; 5. (a) Medicinal and pharmaceutical ointments; (b) Preparations which are intended for introduction into the body orifices (nasal, rectal, vaginal, surgical jelly, etc.); 6. Dental cleansing preparations. Under the order no manufacturer may make tubes for purposes other than *the first five listed in this schedule* if by doing so



A GLASS FURNACE HAS "NERVES"!

Another of research's contributions to the making of better glass

FOR centuries it was difficult for glassmakers to produce long runs of consistently high-quality glass. They had no way of accurately determining the very high temperatures in a glass melting furnace, and, without a way of measuring the heat, they couldn't control it.

Then, shortly before the turn of the last century, research men in Armstrong's Millville Plant were among the first to succeed in equipping their glass furnaces with "nerves" as sensitive as those in your finger tips—"nerves" which provide accurate records of furnace temperatures.

Today, these "nerves" are made of two wires of different metals—frequently rare or noble metal alloys—welded together to form a thermojunction. When heat is applied to this thermocouple, a flow of electrical current results. Since the amount of current depends upon the degree of heat, accurate measurements of temperature and temperature changes are indicated on recording instruments.

Every bottle made in each of Armstrong's glass furnaces today is subject to the control of at least nine of these "nerves," which are connected to a device that makes a continuous, permanent record of temperature. In addition there are many more "nerves," or thermocouples, which record temperatures of the glass at various stages in the manufacture of each bottle.

In large part, Armstrong's continuing reputation for top-quality glass is due to the precise temperature control thus afforded and to many other improvements in glass making pioneered and developed by Armstrong's glass chemists, physicists, and engineers.

Armstrong's illustrated booklet, "Men and Glass," contains many additional details about the unusual skills that go into the making of fine glass. For your free copy, write to the Armstrong Cork Company, Glass and Closure Division, 3802 Prince Street, Lancaster, Pennsylvania.

ARMSTRONG'S GLASS

and ARMSTRONG'S CLOSURES

The Cosmetic Trend

The events of December and the resulting prospect of a longer than expected war have reversed the thinking of department store and other large cosmetic buyers. Many of them have shelved, for the time being, their post-war plans and will prefer to continue upon the assumption that no fundamental changes need be guarded against, at least until late Spring. In terms of orders this may mean a larger than originally planned-for proportion of utilities of the type that have kept toilet goods counters active during the last several years, strict adherence to the monthly quotas of the last year and a disinclination to experiment.

While this attitude concerning purchasing may have a discouraging effect upon manufacturers to produce novelties and advance their own peace-planning, it has, at the other hand, the distinct advantage of preventing sudden cessation of buying a little later in the year; such as kept many manufacturers jumpy last summer. Buyers have learned in the meantime, that they can rely upon the cosmetic industry to keep up with the needs of its market and that there is no need for worry, either on the count of a possible enforced drop in supplies or because of excessive inventories.

The readiness with which many cosmetic manufacturers cooperated with their customers at the end of last summer in relieving their overbought condition in some items has made an excellent impression in buying circles and, certainly, will not harm these manufacturers in the future. By meeting their customers half way these manufacturers have made it possible for many buyers to maintain the enviable mark-down records of their departments which is bound to exert a considerable effect upon their standing in post-war planning.

While there is frequent talk of cutting down on the space requirements of many store departments to make room for returning war-depleted sections, toilet goods departments will remain untouched, some even may gain additional space. However, with the demand for toilet goods still growing, even if not at so fast a rate as through the last years, better use than ever will have to be made of sales footage and manpower. More than ever buyers will be inclined to concentrate upon fast movers and reduce the space needs of other items. This will not mean that the slower movers will not get upon the shelves behind the counters. Buyers have learned only too well during the war the advantage of being able to satisfy the purchaser of "neglected" items on the chance that she buys more than she asks for specifically. It may result, however, in a weakening of the advertising appeal for these products as the result of little or no counter representation.

The effect of this may make itself most noticeable in the case of many of the specialties which have been carried along because of their specific appeal to war workers, but where the demand is bound to decline with the waning of the emergency. As many of these products are expected to be continued under a peace-time label their manufacturers will find it of advantage to look out for them while their fame is still flowering brightly.

he would be unable to fill orders for at least as many tubes for these five purposes as he made for such purposes during the first quarter of 1944.

Although this sudden tightening of lead controls is probably the most dramatic because of its unexpectedness, orders further to tighten the use of paper by this industry are in the making. However, everybody is aware by now that paper is critical and hence there can be little or no shock in these orders which will probably be issued before this is published. A probable further cut of 10 per cent is expected in shipping containers and it is anticipated that a deadline may be set on the use of paper for set packages. Up to this point, further manufacture had already been stopped but this new amendment will have the effect of stopping such use even if the boxes are already fabricated.

Companion Product

Hirestra Laboratories, Inc., who for 7 years has been marketing Endocreme Face Cream, now introduces Endocreme Hand Lotion. Like Endocreme Face Cream, it contains the ingredient, Activol, a trade name for natural estrogens—estrone—estradiol. It claims to be and probably is the first hand lotion on the market to contain natural estrogen. The label on the bottle reads: "Endocreme Hand Lotion can do for the skin of the hands what Endocreme (face cream) does for the face and throat." The retail price is $1.25 for a four ounce bottle which is estimated to be a thirty day supply. Store advertising copy reads: "New, scientific Endocreme Hand Lotion does far more than lubricate the skin's surface. It helps Mother Nature make hand skin soft, smooth, alluring, actually firmer, fresher, younger. This is because Endocreme Hand Lotion . . . like Endocreme Face Cream . . . brings you the big, exclusive benefits of Activol. Activol is a beneficial, laboratory-developed ingredient which duplicates woman's natural, skin-vitalizing substance. Absorbed beneath the skin's surface, it thus helps rebuild ageing cells and tissues. Can do for hands what Endocreme Face Cream does for the face, throat. For 7 years, the Activol in Endocreme Face Cream has brought unmatched results to the face and throat skin of thousands . . . "

Hirestra Laboratories, Inc. pioneered in the field of estrogenic creams and it is not surprising to find it introducing a hand lotion containing natural estrogen after 7 years of successfully selling the ingredient in its Endocreme. The companion product, Endocreme Hand Lotion, will not only sell to those who are already Endocreme Face Cream (and other brand estrogenic cream) enthusiasts, but to many more who will try something new on their hands before they would venture to use it on their faces. In that way, if the results are found satisfactory, more women will turn to the estrogenic face creams.

INTANGIBLE... YET REAL

Electricity is an intangible thing. Although it defies precise definition, it is none the less real on that account.

So, too, is Carr-Lowrey quality. One cannot exactly define or describe it. Yet it does have a definite meaning to those who are interested in glass containers of outstanding excellence.

That intangible something which distinguishes Carr-Lowrey glass containers is the ultimate result of a number of activities that are very real . . . design that is thoroughly sound and practical . . . meticulous care at every step in the process of manufacture . . . constant insistence upon precision and accuracy . . . the pride in craftsmanship that characterizes our organization.

If your postwar planning includes glass containers of distinction and outstanding quality, it is not too soon to discuss your requirements with us now.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. • *New York Office:* 500 Fifth Avenue • *Chicago Office:* 1502 Merchandise Mart

Lengyel has reproduced its Imperiale Russe fragrance in sachet. Six sachets individually wrapped, and gaily, colorfully emblazoned with heraldic devices of Imperial Russia are packaged in a box.

A new addition to Daggett & Ramsdell's group of Mountain Heather preparations is cake make-up, encased in an unusually attractive plastic container with a raised pink heather motif.

Pond's new color, Beau Bail, now comes in rouge as well as lipstick. These color mates for spring are in a lush crimson shade especially aimed for the younger set.

Two-Decker Package

Houbigant has made an interesting package of its Chantilly effervescent bath tablets. The presentation is delightfully feminine in the characteristic Chantilly style of pink and white lace effect. The box is cleverly divided into two trays which open separately, each tray containing ten individually wrapped tablets of perfume magic. As a matter of fact, it is pretty and practical and may well be used for some small gadgets or jewelry after the bath tablets have been used up.

Increased Sales via Packaging

Testimony to the fact that repackaging increases sales is offered by E. P. Matthiessen, president of the Nyal Co., who says that Nyal Eye Drops, in its new container under the name Eyemaster is outselling its predecessor three to one. According to the release, Mr. Matthiessen was able to test results of re-packaging accurately in the case of the eye drops, since he kept the product in the line in the original orange and black box while introducing the new glamorized container. Both have the identical liquid eye wash bottled in glass shaped in the form of an eye dropper with a bulb bottom and long pointed neck for convenient use. The original cardboard package, however, completely hid this functional inner container. The modern version uses transparent acetate through which the dropper is plainly visible when the package is displayed on dealers' shelves."

Tooth Powder Dispenser

According to Celanese Plastics, "if you use tooth powder, and an estimated 35 per cent of the users of prepared dentifrices do, you have probably been looking for a convenient container in which to carry your tooth powder when you are traveling or when you are visiting. You have also probably been looking for a sturdy container to keep your dentifrice in at home since the pre-war metal containers went to war."

Available in a variety of colors, the plastic tooth powder dispenser shown in these pages has a neat orifice in the cover that is opened or kept firmly closed by turning the screw-like fixture on the top. Small and compact, the container can fit into the last minute corner of a suitcase and its streamlined appearance makes it adaptable to any bathroom decorative scheme.

The dispenser pictured was molded of "Lumarith" by Ben Hur Products, Inc., Los Angeles.

Houbigant's Chantilly effervescent bath tablets are cleverly packaged in a box which is divided into two trays, each tray holding ten individually wrapped tablets.

The House of Hawick men's shaving preparations are packaged in little brown jugs with the outside box in a green zebra patterned covering, both designed by Berni.

Convenient tooth powder dispenser with a neat orifice in the cover that is opened or kept firmly closed by turning the screw-like fixture on the top. Molded of "Lumarith" by Ben Hur Products, Inc.

wonderful*

Schulze and Burch Biscuit Co.
1133 WEST 35TH STREET
CHICAGO
November 30, 1943
Mr. S. J. Klein, President
Empire Box Corporation
Garfield, New Jersey
Dear Mr. Klein:
You, of Empire Box Corporation, are doing a wonderful* job for Schulze and Burch in supplying us cartons during these hectic days through which we are passing.
Your loyalty yesterday surely is deserving of our loyalty to-
morrow.
Very truly yours,
SCHULZE AND BURCH BISCUIT CO.
H. D. Bryant
HDB:MP
"THERE IS ONE BEST IN EVERYTHIN

CARTON-CUSTOMER SAYS EMPIRE'S DOING A WONDERFUL SUPPLY JOB

Number 17 of a series of "wartime" letters from old customers—many of them leaders in their field.

As a user of Folding Cartons, you can consider the above letter indicative of Empire's pledge to give faithful service in future years of need... an invitation to write us about your near-future needs, now!

Empire BOX CORPORATION

OFFICES: NEW YORK • CHICAGO • PHILADELPHIA • BOSTON • GARFIELD, N. J.
PLANTS: GARFIELD, N. J. • SOUTH BEND, IND. • STROUDSBURG, PA.

LOOK TO THE FUTURE with EMPIRE

★ Proving ground for your product

The final result of all your research, your raw material control, your skill in manufacturing is placed in a package and sealed—and your reputation sealed with it. From then on it's all out of your hands—it's up to the package.

You won't be in store and home to display your product as you'd like, but the package can. *You* won't be there to make your package easy to open and close, and use and use again —but the closure can.

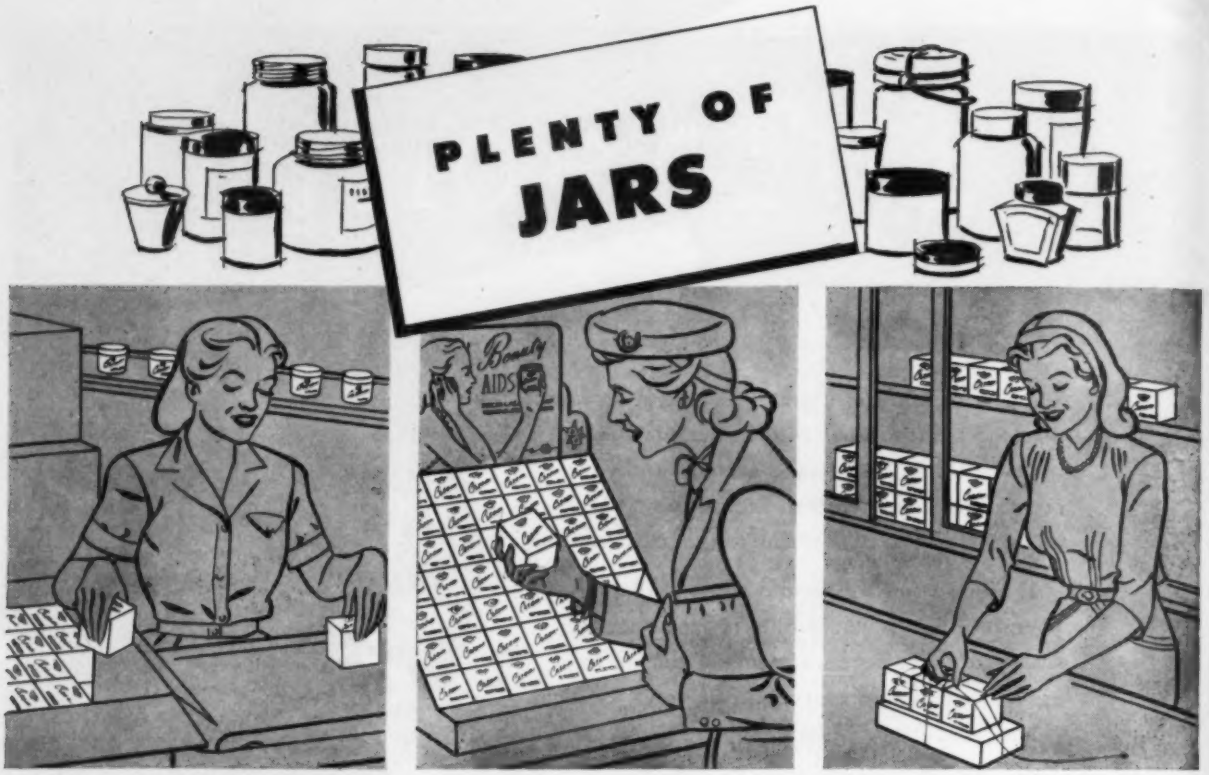
That's why so many manufacturers, with products they're proud of, use Anchorglass and Anchor caps—to *keep* their product as perfect as they made it, all the way into the home and to the satisfactory use that means re-orders.

Write us today. We will be glad to work with you to increase your sales and profits with *packages that protect* the maker's reputation.

"Meet Corliss Archer" every Thursday evening, entire Coast-to-Coast Network CBS.

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO



AND NOW MORE CARTONS!

Glass jars, ceramics, plastics—all make attractive consumer packages. The problem is to pack them for shipment, display and sale.

Let Ridgelo Clay Coated Boxboard take over this important job. It will make folding cartons that protect.

Then it will carry the printed design brightly, clearly. It will reflect the high quality of the primary container inside.

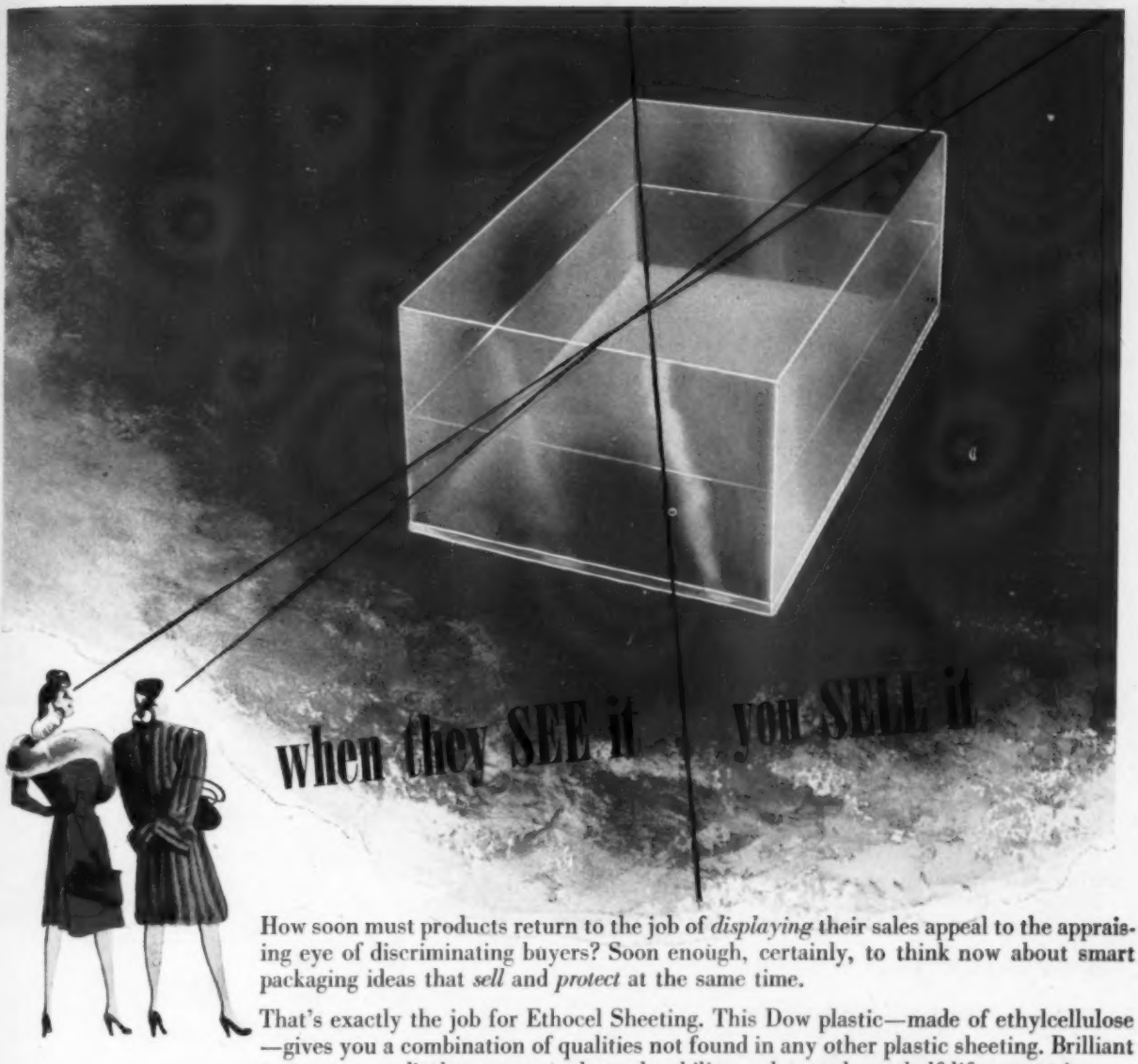
Your product should profit by the large, even carton displays that help make designs "catch-on" and by the easy wrapping of straight, uniform shapes.

Try the Ridgelo Clay Coated folding carton for the highest appeal in a practical package. Better you than your competitor!

Ridgelo
CLAY COATED
BOXBOARDS
Make a lot of difference—FOR A LITTLE
MADE AT RIDGEFIELD, N. J.
BY LOWE PAPER COMPANY

KEEP DOING YOUR SHARE IN THE WASTE PAPER CAMPAIGN

Representatives: Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Gordon Murphy and Norman A. Buist, Los Angeles • A. E. Kellogg, St. Louis • Philip Rudolph & Son, Inc., Philadelphia



How soon must products return to the job of *displaying* their sales appeal to the appraising eye of discriminating buyers? Soon enough, certainly, to think now about smart packaging ideas that *sell* and *protect* at the same time.

That's exactly the job for Ethocel Sheeting. This Dow plastic—made of ethylcellulose—gives you a combination of qualities not found in any other plastic sheeting. Brilliant transparency *displays* your product; durability and extra-long shelf life *protect* it.

Look over the many uses and advantages of Ethocel Sheeting, then get the full story at any Dow sales office.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

PRESENT AND POTENTIAL USES: Boxes and containers, displays, advertising novelties, envelopes, greeting cards, labels, lamp shades, loose-leaf devices, decals, records, electrical insulating tape, ice trays, lighting fixture covers, etc.

ADVANTAGES — — Tough—flexible—transparent. Withstands wide temperature variations, severe conditions. Easily fabricated by drawing, folding. Can be beaded, printed and joined by adhesives. Transmits moisture slowly.

Ethocel Sheeting

DOW

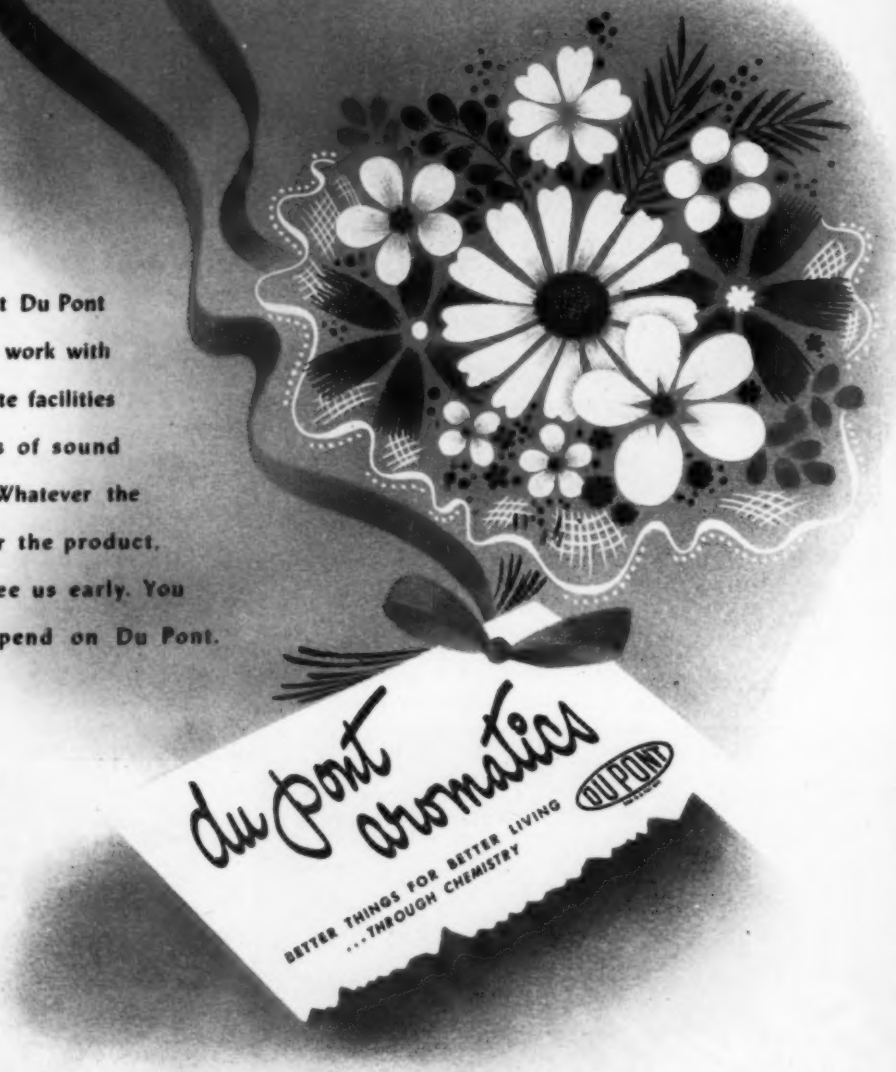
PLASTICS

FOR BETTER PACKAGING:

SARAN FILM • ETHOCEL SHEETING • STRIPCOAT • STYRON

Flirting with a finer fragrance?

depend on du pont



A good idea—if you let Du Pont perfumers and chemists work with you. For we have complete facilities at our disposal, years of sound research behind us. Whatever the fragrance, whatever the product, you'll want to see us early. You can always depend on Du Pont.

E. I. DU PONT DE NEMOURS & CO. (INC.)
ORGANIC CHEMICALS DEPT., AROMATICS SECTION, WILMINGTON, DEL

SMART APPEARANCE is one of the biggest sales-promotion requirements in the packaging of retail drug merchandise. And the packaging material must have high utility value to meet varied physical characteristics of drug products.

Both essentials of smartness and utility are met by the many features of Plaskon Molded Color, now being used for closures and containers on thousands of items by manufacturers in every branch of the drug trade field.

Plaskon is a plastic molding material available in a wide range of permanent colors, that will harmonize with every product need. It can be molded into unusual shapes and designs, to secure eye-catching distinction for your product.

Plaskon is completely impervious to the effects of alcohol, acetone, or other common organic solvents. It is not affected by oils and fats; is odorless, tasteless and inert. For safe, attractive containers and closures for your merchandise, ask your molder to demonstrate all of Plaskon's advantages.

PLASKON

TRADE MARK REGISTERED

MOLDED COLOR

PLASKON DIVISION, Libbey • Owens • Ford Glass Co. • 2110 Sylvan Ave., Toledo 6, Ohio

Canadian Agent: Canadian Industries, Ltd., Montreal, P. Q.

when bottles mean life itself . . .

Many bottles can tell a Treasure Story, in that their contents are precious beyond measure. The field of medicine can attest to this, especially in time of war. Blood banks and plasma containers, bottled Life for thousands of soldiers, are excellent examples. Chemicals of great strength and dissolving potency, impossible to store in metal or other containers, also find perfect housing in glass containers.

The Glass Container & Cap Outlet Company, organized and headed by Mr. John Slowey, urges you to utilize your useless accumulation of odd containers of ANY kind — bottles or otherwise — which clutters up your stock rooms and warehouses. Mr. Slowey, in the capacity of a business man who enables the useless to become vitally useful, will pay a CASH PRICE for your accumulation. Size or Quantity do not matter. The same offer follows for bottle caps, jar caps, ANY caps.

Call us for a quotation today. Receive some useful cash for what to you may be useless trash.

glass container & cap outlet co.

476 Broadway
New York 3, N. Y.

Speed Victory!
BUY BONDS WITH THAT EXTRA CASH!

GAIR BY AIR

SAVES WEIGHT—SAVES SPACE
SAVES PACKAGING COSTS

To the land of the Totem Poles — flying time's from dawn to dusk. Because weight is a first consideration Gair containers and corrugated boxes play a vital part in overland and overseas shipping now and for the future. Gair by Air means maximum cargo at minimum tonnage. Write for bookler "Air Cargoes."

For large users—booklet on the Palletized Load, illustrated with official photographs.

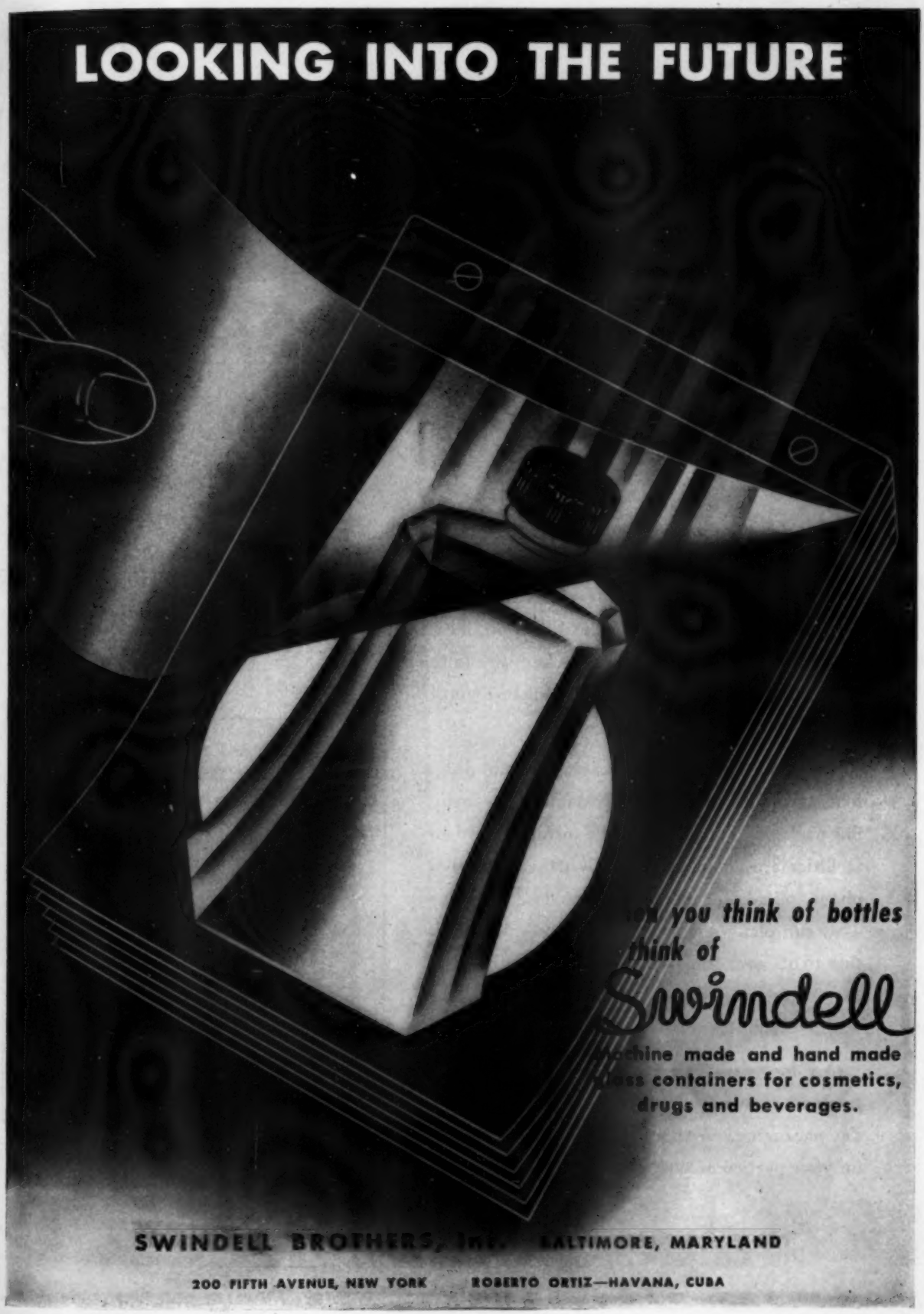
SAVE WASTE PAPER FOR WAR PRODUCTION

ROBERT GAIR COMPANY, INC., NEW YORK • GAIR COMPANY CANADA LIMITED, TORONTO
Folding Cartons • Box Boards • Fibre and Corrugated Shipping Containers

PEAS
Cans to protect the family's food . . . Crowns to keep drinks right
The plastic case for your radio . . . . . And containers, liquid-tight
. . . ARE ALL MADE BY CONTINENTAL CAN COMPANY
Products and Divisions of Continental Can Co.
100 E. 42nd St., New York 17, N. Y.
CONTINENTAL PRODUCTS: Metal Containers · Fibre Drums · Paper Containers · Paper Cups · Plastic Products · Crown Caps and Cork Products · Machinery and Equipment.
OPERATING DIVISIONS: The Container Co., Van Wert, Ohio · Keystone Drum Company, Pittsburgh, Pa. · Boothby Fibre Can Division, Roxbury, Mass. · Mono Containers, Newark, N. J. — Plastics Division, Cambridge, Ohio. Bond Crown & Cork Co., Wilmington, Del. Cameron Can Machinery Co., Chicago, Ill.
FOREIGN SUBSIDIARIES: Continental Can Company of Canada, Limited, Sun Life Building, Montreal · Sociedad Industrial de Cuba, S. A., Havana.
Continental—for packaging and plastic products
REPORT TO THE NATION," every Saturday over CBS coast-to-coast network.

HERE'S THE SECOND ad in the new Continental advertising campaign telling folks about all the different things we now make. These ads not only point up the advantages of all kinds of products in cans—they also point out our expanded facilities and complete services. Watch for these full-color ads in such leading national magazines as *Time, Newsweek, U. S. News, Business Week* and *Fortune*. And keep your eye on Continental and the Continental trademark, too. The Triple-C stands for one company with one policy—to give you only the very best in quality and service.

LOOKING INTO THE FUTURE



...n you think of bottles
...think of
Swindell
...chine made and hand made
...ss containers for cosmetics,
drugs and beverages.

SWINDELL BROTHERS, Inc. BALTIMORE, MARYLAND

200 FIFTH AVENUE, NEW YORK ROBERTO ORTIZ—HAVANA, CUBA

One dose at a time!

YES, one dose at a time! That's the way these Trans-Pac dosage packages are packed—specially planned to suggest the right dosage to customers at even a single glance! The products sealed in this little cellophane package are fully protected from heat, dirt and moisture until opened for use.

This type of creative packaging for the drug, food and allied industries is just one of the many fine packages Trans-Pac will be turning out when facilities are again available. Whether it's cellophane, pliofilm or metal foil—one dose or twelve—we can plan your package needs now. In addition to our own staff, we also have at our disposal the engineering and research divisions of the leading manufacturers of packaging materials.

Our long experience working with diversified products enables us to turn out the best in present-day packaging. We should be happy to advise you on your particular post-war packaging needs.

TRANS-PAC SERVICES, INC.
PACKAGES PRODUCTS
for the following organizations:

EASTMAN KODAK CO.
CAMPBELL'S SOUP CO.
J. C. ENO, INC.
BLOCK DRUG CO., INC.
CHEF BOY-AR-DEE INC.
FOSTER MILBURN CO.
THE NORWICH PHARMACAL CO.
LEADER NOVELTY CANDY CO., INC.
GENERAL MILLS, INC.
C. J. VAN HOUTEN & ZOON, INC.
THE ANACIN CO. "WHITEHALL"
CARTER PRODUCTS, INC.
BREAKSTONE BROS., INC.
MARLON CONFECTIONS CO.
JOHNSON & JOHNSON INTERNATIONAL
WALLACE & TIERNAN CO., INC.

TRANS-PAC SERVICES, INC.

602 WEST 52ND STREET, NEW YORK 19, N. Y.

FIRST AID FOR COLDS

For aid in the relief of minor nasal congestion due to colds, millions of people turn to Mistol. It helps to soothe irritated nasal passages. This widely known remedy is a product of Stanco Incorporated, Elizabeth, N. J. It is supplied in convenient bottles with a dropper applicator as part of the cap. Secure sealing and easy removal are assured because the cap is a Crown Screw Cap with the patented Deep Hook Thread.

CROWN CLOSURES

CROWN CORK & SEAL COMPANY

Closure Division • *Baltimore 3, Md.*

WORLD'S LARGEST MAKERS OF METAL CLOSURES

STAINLESS STEEL MIXING *and* STORAGE TANKS

Depend on San-I-Tanks for safe handling of all your liquids and chemical preparations. The ideal tank for storage, mixing or processing purposes. Built by tank specialists, San-I-Tanks incorporate every time saving, money saving feature. For special tank adaptations consult our engineers for their recommendations, no obligations, of course.

Government restrictions prevent deliveries at present of stainless tanks for the processing of cosmetics and toiletries. We invite your inquiries for delivery at future date

✓CHECK THESE PRODUCTION and EFFICIENCY INCREASING FEATURES

Fabricated throughout of 18-8 Stainless Steel, No. 4 polish on inside, bright finish outside. San-I-Tanks are built to last.

All inside welds are ground smooth and polished. San-I-Tanks are built right throughout.

San-I-Tanks incorporate special self-draining features with specially formed bottoms sloping to the front.

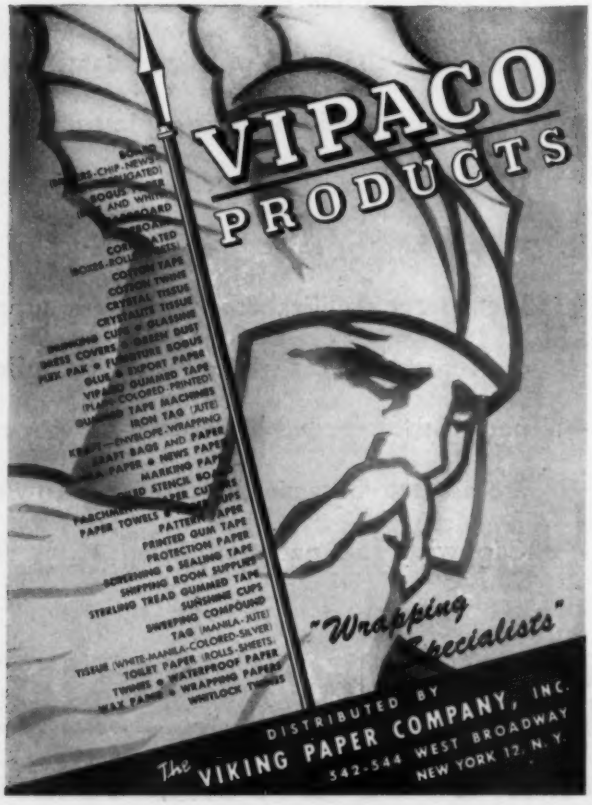
San-I-Tanks are rust-resistant, easy to keep clean and sanitary because of their Stainless Steel construction.

Many special extras available in stock for San-I-Tanks such as covers, motors, agitators, etc.

Built by craftsmen with years of tank building experience—you are assured of years of trouble free, efficient service when you insist on San-I-Tanks.

METAL-GLASS PRODUCTS CO. Dept. D Belding, Mich.

• SUPPLIERS *to the* DRUG *and* COSMETIC INDUSTRY •

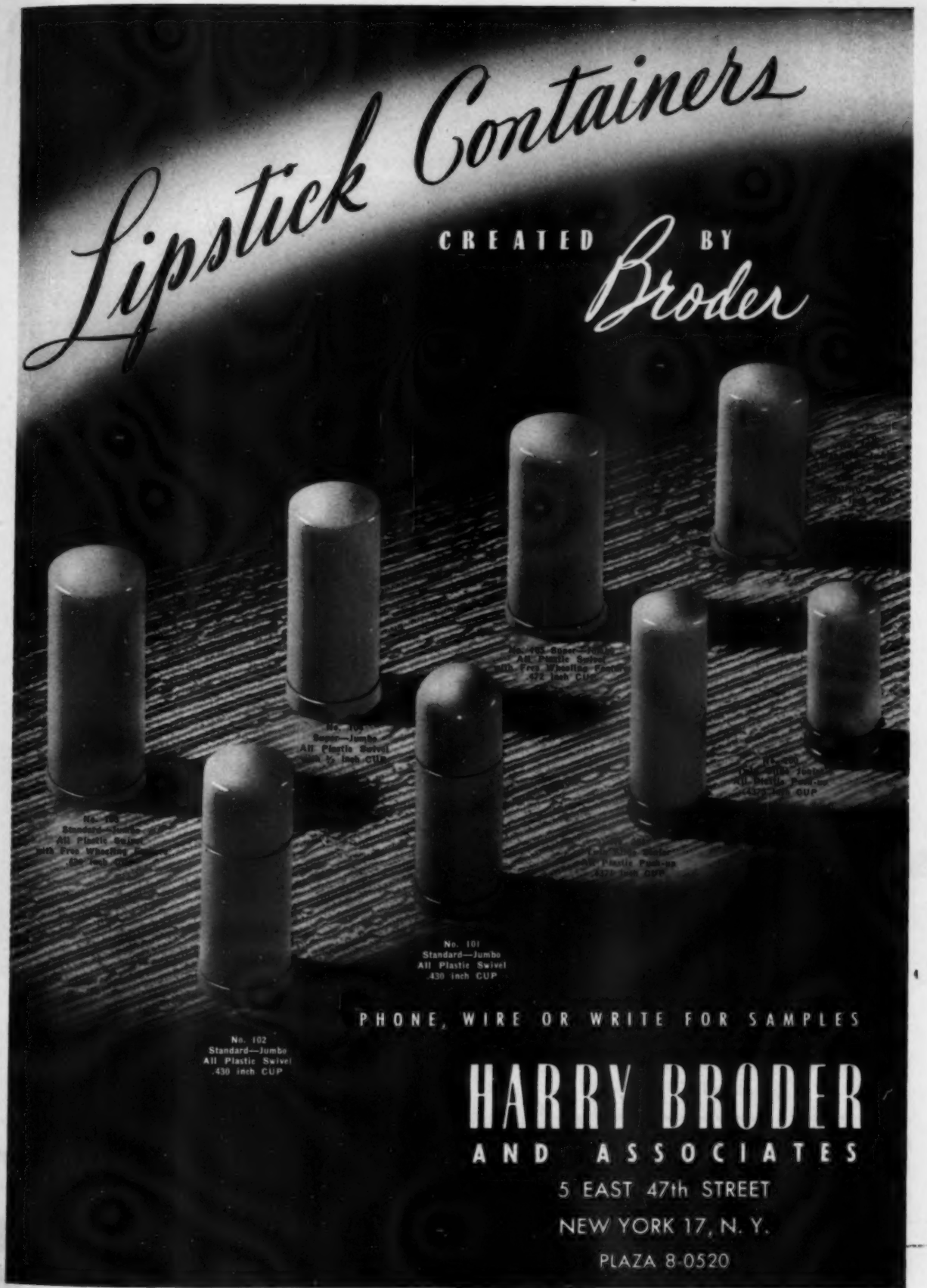


For Flowery Perfumes

Linalyl Benzoate
Linalyl Anthranilate
Linalyl Salicylate Linalyl Isobutyrate
Linalyl Methyl Tiglate
Terpenyl Formate Terpenyl Anthranilate

FAIRMOUNT CHEMICAL CO., Inc.
Manufacturers of Flavor and Perfume Chemicals
600 Ferry Street NEWARK, N. J.

MENTHOL
(Crystals)
NATURAL and SYNTHETIC
SYNTHETIC
GUM BENZOIN
ZINC OXIDE U.S.P.
ZINC STEARATE U.S.P.
ZINC CARBONATE
Fine Chemicals--Drugs
BENDIX CHEMICAL CORP.
420 Lexington Ave. New York 17, N. Y.


Lipstick Containers
CREATED BY
Broder
No. 101
Standard—Jumbo
All Plastic Swivel
.430 inch CUP
No. 102
Standard—Jumbo
All Plastic Swivel
.430 inch CUP
PHONE, WIRE OR WRITE FOR SAMPLES
HARRY BRODER
AND ASSOCIATES
5 EAST 47th STREET
NEW YORK 17, N. Y.
PLAZA 8-0520

The creation of new scents and flavors is a living, growing art—a constant challenge to the skill and imagination of the blender. To give him all possible assistance, it is the aim of the chemical manufacturer to develop and produce a steady flow of new and basic materials. ☆ Mindful of this obligation, Dow's research chemists continue to develop new aromatic chemicals to expand the field of creative perfumery. The quality and uniformity of Dow Synthetic Aromatics now available reflect the manufacturing skill that is the heritage of Dow's years of experience in the chemical field.

DOW AROMATIC PRODUCTS:
Coumarin, Cyclotene, Diphenyl Oxide, Diphenyl Methane, Gardanthrol, Indol, Methyl Anthranilate, Methyl Phenyl Carbinyl Acetate, Methyl Salicylate, Palatone, Phenyl Ethyl Acetate, Phenyl Ethyl Alcohol, Styrene Oxide, Styrene P-100, Sylvenol, and others.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
New York, Boston, Philadelphia, Washington, Cleveland, Detroit, Chicago, St. Louis, Houston, San Francisco, Los Angeles, Seattle

Synthetic Aromatic *Chemicals*

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTO

NEWS...

Standard Labs. Formed by Warner

A new organization, to be known as Standard Laboratories, Inc., is being set up by William R. Warner & Co., Inc., to handle its proprietary drugs and toiletries. Erwin Fauser, formerly president of Frederick Stearns & Co., is president and general manager of the new organization.

ERWIN FAUSER

Fourteen leading proprietary companies will be merged in Standard Laboratories, including Dr. Earl S. Sloan, Inc., the Vince Laboratories, Pfeiffer Chemical Co., the Nonspi Co., and Waterbury Chemical Co.

Mr. Fauser has initiated a complete repackaging program and packages are being designed by Raymond Loewy Associates.

Beyer Named Dreyer Exec. V.P.

Fred J. Beyer has been elected executive vice-president of P. R. Dreyer Inc., New York. Mr. Beyer has recovered from his recent illness and has returned to the office to assume his new duties.

Wasserscheid Breaks Arm

A. A. Wasserscheid, vice-president of Mallinckrodt Chemical Works, New York, slipped and fell on the ice on Monday January 29, while walking from his home in Garden City, N. Y. to the railroad station. Mr. Wasserscheid suffered a fracture above the elbow and one below the elbow of his left arm, one of which fractures was compound.

Hilton-Davis Changes

Formation of the Hilton-Davis Chemical Co. division of Sterling Drug Inc., New York, was announced by James Hill, Jr., president when the transfer of the Ohio company to Sterling became effective January 2.

Louis A. Hoffman, president of Hilton-Davis since April 1942, has been elected a vice-president of Sterling Drug Inc., according to Mr. Hill who said that the new Hilton-Davis Chemical Co. division would continue all policies of the company now dissolved, that the personnel would remain unchanged, and that plans had been completed for aggressive promotion of the chemicals and dyestuffs manufactured in the Cincinnati plant.

James F. Thompson, Jr., and George W. Nieder, vice-presidents of Hilton-Davis, remain as divisional vice-presidents of Sterling Drug. Carl W. Aneshanse, treasurer, and Donald F. Walker, secretary, become divisional treasurer and secretary respectively.

Hale Advanced by Burroughs Wellcome

Burroughs Wellcome & Co. has announced the appointment of J. N. Hale to the position of director of distribution formerly held by G. S. Dunbar, newly elected president.

J. N. HALE

Mr. Hale has been associated with the firm since 1934 in the capacity of representative, southern district supervisor, and assistant director of sales.

Piatt Serves WPB

Louis Piatt, head of the Home Canning Division of Anchor Hocking Glass Corp., Lancaster, Ohio, has been named glass and closure consultant in the Glass Container and Closure Section, Containers Division, War Production Board, it has been announced by William V. Fisher, Anchor Hocking Glass Corp. president.

Mr. Piatt has served in various capacities in both the container and closure divisions during eighteen years of service with the company.

Wellenkamp Named V.P.

Appointment of C. K. Wellenkamp as vice-president in charge of the aromatics division of the General Drug Co.

C. K. WELLENKAMP

has been announced by Earl I. McClintock, president. Mr. Wellenkamp has been manager of the division for the past fifteen years. He makes his headquarters at 125 Barclay St., New York 7.

United Drug Buys Sontag

United Drug, Inc., Boston, has bought the Sontag Chain Stores Co., Ltd. The Sontag chain operates forty-eight drug stores in California. Albin Jacobson, formerly executive vice-president of Sontag, will remain operating head of the chain.

Welcke Named Knight of Malta

William A. R. Welcke, vice-president and treasurer of Fritzsche Brothers, Inc., New York, has been named a member of the Knights of Malta, one of the highest distinctions attainable by a Catholic layman in this country. Since it was founded during the Crusades it has conferred membership only upon those outstanding in charitable work whose time, effort and money have been generously given to the unfortunate.

Montgomery Again Heads Assn.

John H. Montgomery, vice-president-secretary of Fritzsche Brothers, Inc., New York, and president of the Essential Oil Association of the U. S. A., discussed the prospects for the importation of French essential oils at the annual meeting of the association, held in New York January 10. He pointed out that very small supplies are available for export in France at this time and

JOHN H. MONTGOMERY

that they are being held at prices so high that importation is practically out of the question. The U. S. Commercial Co. has sent a representative to Europe with powers to negotiate in behalf of the association and he will collaborate with Lester Barber of the Department of Commerce who is now in France making a first-hand survey of the essential oil situation.

Dr. Eric Kunz, president of Givaudan-Delawanna and chairman of the scientific committee, reported on the progress made in standardizing essential oil specifications. M. M. Lemmermeter, head of Aromatic Products Inc., and chairman of the committee on aromatics, reported completion of work on acetophenone, amylcinnamic aldehyde, and fatty aldehydes.

The report of the nominating committee was unanimously accepted and the following officers were elected: president, John H. Montgomery, Fritzsche Brothers, Inc.; vice-president, William Schilling, Jr., Norda Essential Oil & Chemical Co.; secretary-treasurer, Robert B. Magnus, Magnus, Mabee & Reynard, Inc.

Other members elected to the executive committee were Frederick G. Buehler, George Lueders & Co., and Louis Rapin, Antoine Chiris Co.

Ray C. Schlotterer is managing director of the association.

Procter Medal to Griffith

The eighty-fourth anniversary of the Philadelphia Drug Exchange was the occasion for the inauguration of a gold medal award commemorating William Procter, Jr., "Father of American Pharmacy". The Procter Medal will be awarded from time to time to those American pharmacists, chemists or scientists agreed upon by a committee of the Drug Exchange.

First to receive the Procter Medal was Ivor Griffith, Ph.M., Sc.D.,F.R.S.A. at a dinner held January 23. Dr. Griffith is president of the Philadelphia College of Pharmacy and Science, past president of the American Pharmaceutical Association, member of the Pennsylvania Advisory Board of Health, member of the Committee on Pharmacy of the National Research Council, chairman of the Food and Drug Committee of the Philadelphia Department of Public Health, originator of the National Quinine Pool, and president of the Science Teachers Conference of the Middle Atlantic States.

Degener Heads Chicago Assn.

At a meeting of the Chicago Perfumery, Soap and Extract Association held January 9, the following new officers were installed: president, F. A. Degener, Heyden Chemical Corp.; vice-president, Walter R. Nay, Mallinckrodt Chemical Works; secretary, Carl Edwards, Fritzsche Brothers; treasurer, Martin Vance, Givaudan-Delawanna, Inc.

F. A. DEGENER

As president, Mr. Degener, who served as vice-president in 1944, succeeds Joseph A. Gauer.

Straup on Phila. Wholesale Board

J. Wesley Straup has been elected a member of the board of directors of the Philadelphia Wholesale Drug Co. He will serve during the unexpired term of the late George W. Fehr.

Bower Advanced by Milkmaid

Maxwell F. Bower, who has been sales manager of Milkmaid, Inc., New York, since the company was organized in 1940, has been elected vice-president in charge of sales.

Annual dinner of the Essential Oil Association of the U. S. A. held at the Hotel Pennsylvania, New York, January 10, 1945

For the distinctive note
that enhances odor appeal
Specialties
of the House of
Albert Verley & Company
important part of the service
which makes this house a complete,
self-contained source of aromatic ma-
terials and inspiration
..turn the page

The Odor is the Soul of your Product... it pays to work with a source that helps you rise above the commonplace

To establish an American source of aromatics that would be independent of Europe was the goal of our organization through ten years of pre-war development.

It was not enough that the House of Albert Verley & Company should be known for a few outstanding specialties — important as these continue to be in the further advance of American perfumery. We were not satisfied until we were able to offer a *complete service* — including materials in any desired stage of fabrication up to the finished composition, and counsel to aid the perfumer in his constant search for new creative ideas.

This complete service is now available — enabling you to find in one place everything that you need to enhance the odor appeal of your products for the post-war competitive era. Broad in range, it comprises all the major odor groups and the many interesting variations which set your product apart from the crowd. By way of example, we are listing here a few of the well-known specialties of our House — just one phase of our many-sided service.

Due to wartime shortages of raw materials, this service has necessarily been limited to our established clientele — including many of the great names in perfumery and cosmetics. Above all, it has been our desire to be helpful to them through this trying period.

Now, however, preparation for post-war marketing is the order of the day. You cannot afford to wait until the last minute to make your preparations. Consult us in confidence regarding your odor requirements — and let us assist you in any way that we can, to attain your post-war objectives.

Specialties of the House of Albert Verley & Company

Aldehyde Jasminique
...imparts a distinctive floral freshness reminiscent of the Jasmin blossom

Alcool Jasminique
...an established specialty that promises to live forever

Alcool Tuberique
...a powerful floral note that is the basis of many modern types

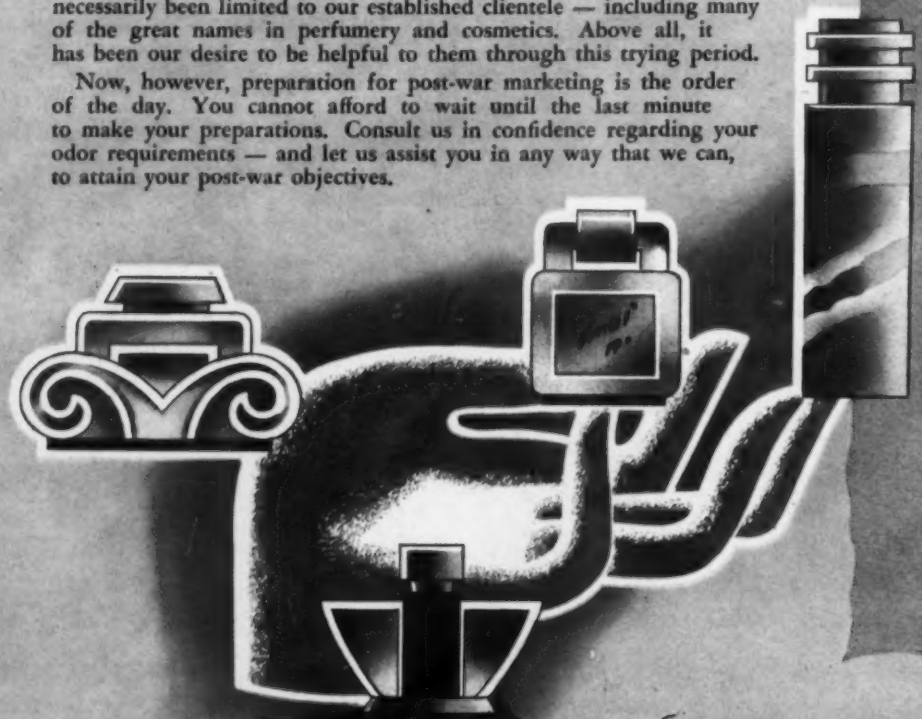
Sesquirolene
...a deep oriental note of extreme fixative quality

Damascenol
...available in Red Rose and Bulgarian Otto Rose types

Absolute Eau de Fleur d'Oranger Synthetique
...a remarkably truthful reproduction of the Absolute Orange Flower from Water

Jasmin Blossom "V"
...almost indistinguishable from the natural product

For a stimulating variety of other specialties, see pages 27-35 of our handbook, "Aromatics."



Albert Verley
AND COMPANY
Headquarters for Odor Appeal

232 EAST OHIO STREET, CHICAGO 11, ILL.
114-116 EAST 25th STREET, NEW YORK 10, N. Y.
MEFFORD CHEMICAL CO., LOS ANGELES

Synthetic Aromatic Products and Organic Isolates
Bouquets and Finished Compositions
Synthetic Flower Oils and Aromatic Bases

Chilson Speaks on Post-War Research

Francis Chilson, industrial consultant and production editor of THE DRUG & COSMETIC INDUSTRY addressed the Chattanooga Branch of the American Chemical Society on January 17. Mr. Chilson's subject was "Research in the Post-war World."

Universal Labs. Appoints Harrison

Leonard Harrison has been appointed advertising director of Universal Laboratories, Inc., Long Island City.

Simon Again Active

George Simon, former vice-president and treasurer of Heyden Chemical Corp., New York, William Callan formerly vice-president of the Borden Co. and president of the Casein Co. of America, and Frank E. Crawford, Crawford, Keen & Cia of Buenos Aires, have formed Crawford, Callan & Co. The new company will act as export and import commission merchants and as representatives of foreign and domestic shippers. Offices have been established at 350 Madison Ave., New York.

Mr. Simon founded the Helden Chemical Works in Garfield, N. J. in 1900. He was also one of the incorporators of the Norvell Chemical Co., Perth Amboy. When these firms were later merged with Heyden Chemical Co. he became a director, treasurer and vice-president in charge of sales for Heyden, positions held until his retirement in 1944.

Mr. Callan who recently retired as vice-president of the Borden Co. was formerly vice-president of the Central Manufacturing Co., Cincinnati; European representative of H. J. Baker & Bro.; head of the Bowker Chemical Co.; president of the Casein Manufacturing Co. of America; president of the Dry Milk Co.; and president of the National Milk Sugar Co.

Mr. Crawford has been the representative and agent of the Argentine firm, as well as several other South American firms, for twenty-two years. He founded the original firm in Buenos Aires after leaving W. R. Grace & Co.

GEORGE SIMON

in 1922. He has recently returned from Washington where he was head of the Food Supply Section of the Food Control Division of the War Shipping Administration.

Luncheon in Chicago in honor of Robert B. Little, who recently was appointed general sales manager for Davol Rubber. Others present were: John A. A. Scott, Merck & Co. Inc.; Talmadge B. Tribble, Magnus, Mabee & Reynard, Inc.; M. F. Charley, Standard Pharmacal Co.; A. J. Rocca, Gazzolo Drug & Chemical Co.; Paul E. Gibney, Sterling Drug, Inc.; David K. Olin, Service Wholesale Drug Co.; Dale F. Ruedig, Eli Lilly & Co.; J. A. Shay, Scholl Mfg. Co. Inc.; Walter R. Nay, Mallinckrodt Chemical Wks.; Joseph Shine, Illinois Pharmaceutical Assn.; William T. Atkinson, McKesson & Robbins, Inc., Fuller-Morrison Div.; Carl S. Sponsel and J. H. Triens, Walgreen Drug Co.; H. R. Arnold, Galler Drug Co.; Arthur R. Jensen, Mutual Drug Co.; Elias Shaker, James T. Leavitt and Edgar E. Brand.

Holder Joins Standard Labs.

Glenn Holder has been appointed advertising and sales promotion manager of Standard Laboratories, Inc., it has

GLENN HOLDER

been announced by Erwin Fauser, president. Mr. Holder was formerly advertising manager of the Vitamins Plus division of Vick Chemical Co., and was for ten years an executive of Morse International advertising agency.

Beauty Fashion Awards

BEAUTY FASHION, the magazine of the perfume and cosmetic industry, has announced that 1944 Awards have been presented to: Ann Haviland for packaging; Charles of the Ritz and Chen Yu for advertising; Dorothy Gray and Revlon Products Corp. for promotion; and Helena Rubinstein for merchandising policy.

The Jury of Award was composed of twelve cosmetic buyers in department stores thorughout the country.

Charles S. Welch Memorial Award

C. A. Pennock, president of the Hudnut Sales Co., Inc., and head of the special Charles S. Welch Memorial Award Committee of the Toilet Goods Association, has announced the following members of the Jury of Award: C. A. Browne, editor of Modern Packaging, chairman; Elise E. Ruffini, A.M., associate professor of fine arts in Teachers College, Columbia University; Elmer Sheets, editor of BEAUTY FASHION; Hildegarde Fillmore, beauty editor of McCall's Magazine; John W. McPherrin, editor of American Druggist; Sarah Pennoyer, vice-president of Bonwit Teller; William Murtha, divisional merchandise manager of Bloomingdale's. The Charles S. Welch Memorial Award will consist of a suitable plaque to be presented each year to the company which, in the opinion of the jury of award, places upon the market the most outstanding package.

if the cold season has your inventory down...

If there has been a run on your supply of acetophenetidin and acetanilid during the cold season . . . and you need more in a hurry . . . get in touch with Monsanto. We can make deliveries *promptly*.

In addition to this *reliable* service, a long-time advantage of dealing with Monsanto, you are assured of *dependable* quality. Monsanto products are the result of planned research, strict plant control and constant laboratory checking.

When you need acetophenetidin . . . or acetanilid . . . place your order with Monsanto. When you've experienced our service and quality, you'll be glad you did!

MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second St., St. Louis 4, Missouri. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

ACETANILID, U.S.P.			
Specifications	Conforms to requirements of all U.S.P. tests.	Available Forms	Crystals: None retained on 14-mesh. Powder: 3.0% max. retained on 80-mesh.
ACETOPHENETIDIN, U.S.P.			
Specifications	Conforms to requirements of all U.S.P. tests.	Available Forms	Crystals: None retained on 14-mesh. Powder: 5% retained on 100-mesh.

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

Breon Adds to Peake's Duties

George A. Breon, president of George A. Breon & Co., Kansas City, Mo., has announced that F. W. Peake, who has been with the company for more than

F. W. PEAKE

seventeen years, has assumed the additional duties of general manager. Mr. Peake, who has been vice-president and treasurer, retains these offices.

FRED A. MORRISON

C. B. Drolsbaugh has been advanced to vice-president in charge of sales, while Fred A. Morrison succeeds him as general sales manager. Mr. Morrison has been with the company since 1938 and has risen from territorial salesman to district manager and now to general sales manager.

Johnson Joins Walker Co.

M. R. Johnson has been appointed vice-president and sales manager of the Walker Co., Middleboro, Mass. For fifteen years, Mr. Johnson was general sales manager of Gilman Brothers, Inc., Boston.

Singleton Joins Sherman & Marquette

Thomas B. Singleton, formerly vice-president in charge of sales and advertising of the Murine Co., has been made vice-president of Sherman & Marquette, Chicago.

Vitamin Research Institute Formed

Vitamin Research Institute was formed January 29, at the Waldorf-Astoria Hotel, New York. All votes cast for the formation of the institute were not final as some individuals who voted "yes" reserved decision to their companies. Forty-one houses indicated intention to attend, and close to one hundred individuals were present. Temporary chairman was Elmer H. Bobst, Nutley, N. J. The following were elected to the board of governors:

Chairman of the Board, Dr. T. G. Klumpp, Winthrop Chemical Co.

Professional Group: L. D. Barney, Hoffmann-LaRoche, Nutley, N. J.; E. Russell Dyer, International Vitamin Corp., New York; Dr. Lewis, Nion Corp., Los Angeles; J. Paul Folsom, Lederle Laboratories, New York; William Berg, Borden Company, New York; Dr. E. C. Merrill, United Drug Co., Boston; James C. Chilcott, Maltine Co., New York.

Consumer Group: O. F. Brownell, Lever Brothers, Cambridge; Wilbur E. Dewell, McKesson & Robbins, Bridgeport; Charles H. Beardsley, Miles Laboratories, Elkhart, Ind.

Basic Producers Group: James J. Kerrigan, Merck & Co., Rahway, N. J.; Charles Bowman, Chas. Bowman & Co., New York; John L. Smith, Chas. Pfizer & Co., New York; John H. LaWare, Standard Brands, New York; Robert P. Scherer, Gelatin Products.

Honorary Group: Dr. Norman Jolliffe, Bellevue Hospital, New York; Basil O'Connor, O'Connor & Farber.

Half of the members of the board of governors shall serve a one-year term, and the balance a two-year term. The board will meet once a year. Direct business and executive management of the institute shall be vested in an executive committee to be appointed from the membership at large by the board of governors. The executive committee shall consist of the following: Four members from the professional group, two members from the consumer group, two members from the basic producers group, and the chairman of the board of governors. Executive secretary of the institute will be Henry K. Urion, of O'Connor & Farber.

Dues are assessed according to the annual volume of sales as follows: Under $150,000 sales, dues $100; between $300,000 and $150,000, $250; between $500,000 and $300,000, $500; between $1,000,000 and $500,000, $1,000; over $1,000,000, $2,000.

Upjohn Advances Fox and Smith

Fernen E. Fox, former sales manager for government accounts for the Upjohn Company, Kalamazoo, Mich., has been appointed sales manager for the

F. E. FOX

company's Minneapolis branch. Vern L. Smith, former sales supervisor of the Detroit district, has been appointed sales manager of the Cleveland branch.

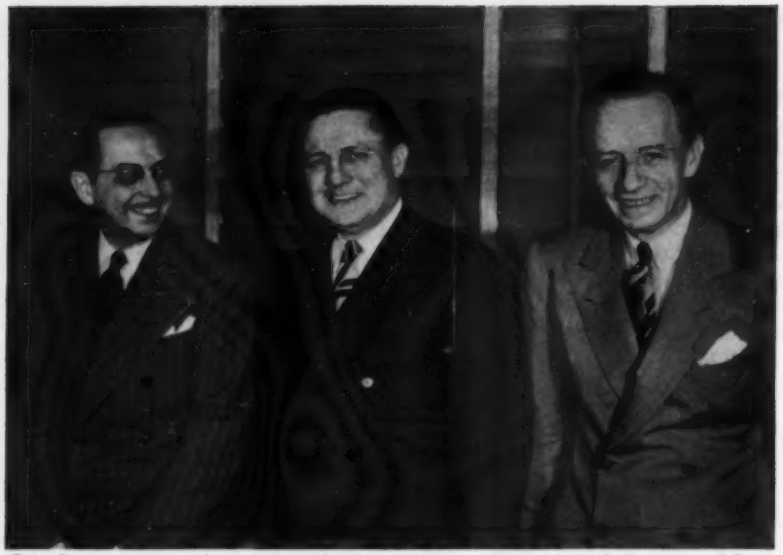
VERN L. SMITH

Mr. Fox has been with the company since 1930 when he started as a salesman in the Billings, Mont., territory under the Kansas City branch. In 1940 he was made sales supervisor of the Kansas City branch's western district and in 1941 moved to the home office in Kalamazoo. In 1942 he was made sales manager for government accounts.

Mr. Smith has been with Upjohn since 1921 when he started as a salesman in Detroit. In 1937 he was made sales supervisor of the Buffalo district under the Cleveland branch and in 1941 was transferred back to Detroit to become supervisor of that district.

Jane Austen Kendall

Mr. and Mrs. David M. Kendall announce the birth of a baby girl, Jane Austen, on January 1. Mr. Kendall is general manager of Associated Distributors, Chicago.



Otto Baptist, export sales manager of Albert Verley & Co. with D. F. Bennett and E. J. Strobl. Mr. Baptist, who has just returned from South America is leaving for Cuba and Mexico City where he will spend some time with Alberto Farres, Verley's Mexican representative.

Henri Robert—Perfume Consultant

Henri Robert will establish himself in New York where he will serve the American perfumery industry in a creative and consulting capacity and supply new and special perfumers raw materials.

He spent his early years in Grasse, France, working under the direct supervision of his father, Joseph Robert, who, with Massignon, is credited with creating the volatile solvent process for the extraction of perfume from flowers and plants more than fifty years ago. This process is still employed in the manufacture of the absolutes of jasmin, rose, fleur d'orange, etc.

With this background Henri Robert subsequently became associated with some of the internationally known Parisian perfumery houses.

Assoc. Distrib. Buys Huntingford

Associated Distributors, Inc. has purchased Mme. Huntingford, Inc. from Truman Bradley and Elene Bradley Miller, it has been announced by Lewis J. Ruskin, president and owner of Associated Distributors.

Lueders Not For Sale

In view of certain rumors which have been circulating in the trade, F. J. Lueders, president of George Lueders & Co., Inc., authorizes the statement that the company is most emphatically not for sale and there is no prospect that proposals of that nature will be entertained.

Celebrates 25 Yrs. with Polak's

John ter Veer, secretary of Polak's Frutal Works, Inc., was guest of honor at a dinner and theatre party January 6. The occasion marked his completion of twenty-five years with the company.

Mr. ter Veer started as assistant accountant for the parent company in Amersfoort, Holland, shortly after the first World War. In 1923 he was transferred to New York and in 1928 became secretary of the company.

During the dinner, Mr. ter Veer was presented with a substantial war bond by the company, a scroll of honor, and personal gifts from his many friends and associates.

Warner Appoints Dr. Conner and Dr. Gee

The appointment of Dr. Robert T. Conner as technical director of William R. Warner & Co., Inc., and of Dr. Haldane Gee as director of development and pilot laboratories, has been announced by Ralph W. Henderson, vice-president and general plant manager.

Dr. Conner was formerly senior research chemist in charge of control at the Central Research Laboratories of General Foods Corp., and prior to that, instructor in chemistry and collaborator with Professor H. C. Sherman at Columbia University where he received his Ph.D. degree.

In addition to directing the pilot plant operations, Dr. Gee will be retained in an advisory capacity to the "Sterisol" division of Schering & Glatz, Inc., a subsidiary of William R. Warner & Co., Inc.

Three Elected to Vick Board

Three new members have been elected to the board of Vick Chemical Co. They are Lawrence A. Appley, vice-president and a former deputy chairman and executive director of the War Manpower Commission; Jerome Patterson, advertising manager since 1939; and Marion W. Smith, assistant to the general manager. Mr. Smith was formerly legal counsel for the company.

Rohm & Haas Moves in N. Y.

Rohm & Haas Co., Philadelphia, has moved its New York office to new and larger quarters at 11 West 42 Street. The new telephone is Longacre 2-2390.

Harry S. Howard, president of Wyeth Inc., and Dr. Jesuino de Albuquerque, secretary of public health of the Federal District of Rio de Janeiro, Brazil, who is making a study of production methods at the penicillin laboratories of Wyeth Inc., Reichel Division, at West Chester and Kimberton, Pa.

Official U. S. Navy Photograph

Measured purity..to help them fight again

In this war, losses from wounds among our armed forces have been remarkably low.

One of the reasons for this is Gas Gangrene, Anti-toxin—a wartime medicinal product which has helped our men live and fight again.

This anti-toxin, product of a number of well-known pharmaceutical houses of America, owes much of its efficiency to the measured purity of several fine chemicals used in its manufacture.

In addition to Gas Gangrene, Anti-toxin, a great number of other medicinal products began with a fine chemical or several fine chemicals of exacting purity. And the efficacy of the product to a large degree depended on the purity of the fine chemical.

Supplying measured chemical purity to exacting specifications has been a wartime contribution of the J. T. Baker Chemical Co.

For more than 40 years Baker has built its chemical business on measured purity. That is why leading pharmaceutical and drug companies choose Baker as a source of supply. They know that Baker's purity by the ton in fine chemicals is the result of unique control methods and ceaseless testing.

Today this measured purity helps our wounded boys in service live!

J. T. Baker Chemical Co., ***Executive Offices and Plant:*** **Phillipsburg, N. J.**
Branch Offices: **New York, Philadelphia and Chicago.**

FOR VICTORY BUY UNITED STATES WAR SAVINGS BONDS AND STAMPS

Baker's fine chemicals

There is no "Synthetic" for

EXPERIENCE!

BEESWAX *"TL" BRAND Extra Quality* "LEONHARD"

MEDICINAL WHITE OILS
"U.S.P." • "TECHNICAL"

SIERRA TALCS
"All Grades"

VANILLA BEANS—GUMS—"T. & B."

STURGE CHALK
"Extra Light"—"Dense"

CASTILE SOAP
"Laco"

ESSENTIAL OILS—Naturals—Synthetics

"For years we have been serving manufacturers in our field. We know their needs, and are proud of the fact that our customers depend upon our experience and integrity in supplying their wants."

A. C. DRURY & CO., INC.

219 EAST NORTH WATER STREET • CHICAGO 11, ILLINOIS.

Eggerss on Continental Can Board

Hans A. Eggerss, president of the Container Company, Van Wert, Ohio, a wholly-owned subsidiary of Continental Can Co., Inc. has been elected to the board of directors and a vice-president in charge of the paper container division of Continental Can Co.

HANS A. EGGERSS

Mr. Eggerss began his career in the paper container business in 1908 when he joined the A. George Schulz Co. of Milwaukee. From 1912 to 1918 he was with the Eggerss O'Flyng Co., Omaha, where he was in charge of the corrugated and fiber box division. After two years spent in the armed forces, he returned to A. George Schulz Co., and then was with the Eddy Paper Co. of Three Rivers, Mich. In 1924 he took over the Container Co. and became its president. In 1942 the Container Co. was acquired by Continental Can Co.

C. L. Huisking Celebrates 60th Birthday

Charles L. Huisking, president of Chas. L. Huisking & Co., New York, celebrated his sixtieth birthday on February 2. Mr. Huisking's associate, Peter A. Dirr, gave a luncheon at the Wool Club, New York, to Mr. Huisking and a group of Mr. Huisking's friends.

Sheehan With Arnold Hoffman

B. F. Sheehan, 21 years with Grasselli Chemical Co. and its successor firm E. I. du Pont de Nemours & Co., has resigned his position to join Arnold Hoffman & Co. Mr. Sheehan's associates in the du Pont company tendered him a farewell dinner at the Vanderbilt Hotel, New York, February 3.

Egan Joins Ayer

Lillian S. Dodge, president of Harriet Hubbard Ayer, Inc., New York, has announced that John A. Egan has joined the organization as sales promotion director. He was for the past eighteen years, toiletries buyer for Stix, Baer & Fuller Co., St. Louis.

Ord Pinch-Hitting for Renner

Pending the return to duty of Fred C. Renner who is now convalescing in Deaconess Hospital, St. Louis, Robinson Ord will serve as acting general manager of sales of Monsanto Chemical Company's organic chemicals division, it was announced by Osborne Bezanson, Monsanto vice-president. Mr. Renner is making a splendid recovery from his serious illness but it is unlikely that he will be back at work for two or three months.

Meanwhile, A. T. Loeffler, branch manager at New York, will be assigned to St. Louis with the temporary title of assistant general manager of sales; A. P. Kroeger, St. Louis, manager of intermediates sales, has gone to New York as acting assistant branch manager, and the duties of C. H. Sommer, manager of plasticizers and resins sales, have been extended to include those of acting manager of intermediate sales.

Effective January 15, F. M. Luckett, sales representative in the Chicago territory, was temporarily assigned to St. Louis to assist Mr. Sommer.

Ewing Joins Penick

James H. Ewing joined the staff of S. B. Penick & Co., New York, January 1. Mr. Ewing has served for many years in an executive capacity with the purchasing department of the Calco Chemical Division of American Cyanamid Co.

JAMES H. EWING

George W. Luft Appointments

The George W. Luft Co. has announced the appointment of Stewart E. LeRoy as territorial representative for the western New York and western Pennsylvania territory. Irving C. Snyder has been appointed junior salesman in the Chicago district under the supervision of Karl F. Schindl who is in charge of the midwest territory.

John Martin Retires

John H. Martin, for twenty-eight years with The H. A. Metz Laboratories and its successor company, Winthrop Chemical Company, retired from active association with the company as of February 15. Mr. Martin, who was the first representative that Col. Herman A. Metz had when he started the Metz Laboratories, has been engaged with sales and distribution of the products of Metz and Winthrop. Mr. Martin left for California February 18 where he plans to make his home. He is being retained by Winthrop in a consulting capacity.

JOHN H. MARTIN

A Son to the Budds

An eight pound boy was born to Mr. and Mrs. Henry Budd, of Hoffmann-LaRoche. Mr. Budd is the son of I. H. Budd, of Ungerer & Company. This is the elder Mr. Budd's first grandchild.

Givaudan Service Men Decorated

The Distinguished Flying Cross has been awarded to two employees of Givaudan-Delawanna, Inc. Technical Sergeant Stephen R. Novak for "courageous service to his combat organization" and Staff Sergeant Peter Cousoulis for "extraordinary achievement during thirty-five heavy bombardment missions over Germany and German-occupied Europe."

The names of ninety-six Givaudan employees appear on the company Honor Roll, two of them with gold stars. Pfc. Walter S. Rembish, 23, and Private Stanley Myles, 30, both gave their lives on the French front. Tommy Novak and Mike Lazorchak were wounded in the European theatre but are now recuperating. Joseph Wade is now a prisoner-of-war in Germany.

Sergeant Vasil Flak is the recipient of the Silver Star Medal and the Navy Legion of Merit, being credited with having saved the lives of ninety men in the invasion of Sicily.

On the hook IN EVERY DRUG STORE in the country

These Services Make It Click!

- 600 fact-packed pages
- Complete Alphabetical List of over 100,000 Drug Store Items
- Pharmacists' Ready Reference Information Index
- Digest of National and State Drug Laws and Regulations
- Manufacturers' Catalogs
- Exclusive Information on Animal, Pet, and Poultry diseases and treatments
- Full keyed, numbered List of Manufacturers' names and addresses

YES! And *off* the hook a dozen times a day. Druggists can't keep thousands of brands, thousands of sizes, thousands of prices in mind. But they can and do look them up quickly and accurately in the AMERICAN DRUGGIST BLUE PRICE BOOK.

So does every important wholesaler and chain headquarters. Buyers and sellers depend on the BLUE PRICE BOOK's accurate, up-to-date, complete information.

Why not tell these people who are the spokes in your merchandising wheel more about *your* products.

Advertising in the BLUE PRICE BOOK costs little... does much.

Call or write the nearest office of the AMERICAN DRUGGIST.

American Druggist BLUE PRICE BOOK

NEW YORK: 572 Madison Avenue • CHICAGO: 326 W. Madison Avenue
DETROIT: General Motors Building • BOSTON: Park Square Building
ATLANTA: Rhodes-Haverty Building • SAN FRANCISCO: 509 Hearst Building

Three Squibb V.P.'s Named

The election of three new vice-presidents of E. R. Squibb & Sons has been announced by Carleton Palmer, chairman of the board. Theodore Weicker, Jr., was elected vice-president in charge of Inter-American operations; Robert A. Hardt, vice-president in charge of advertising and sales promotion; and John J. Toohy, vice-president in charge of sales administration.

Mr. Hardt, a graduate of the University of Nebraska College of Pharmacy joined Squibb in 1926 as a salesman, later becoming product development manager, assistant sales manager, and director of advertising and sales promotion.

Mr. Toohy, a graduate of Harvard, has been with Squibb since 1922 He has served as wholesale and retail sales manager, manager of distribution, assistant to administrative vice-president and field personnel manager, director of sales administration.

Mr. Hardt is a member of the National Pharmacy Committee on Public Information. Mr. Toohy served as director and chairman of the Drug, Chemical and Allied Trades Section of the New York Board of Trade and is now a member of its advisory council. For almost a year he was with the Chemical and Drug Division of the OPA in Washington.

Dana Appoints Lossow

J. L. Younghusband has announced that Waldo v. Lossow has been appointed sales manager of Dana Perfumes, Inc. He was formerly with Lucien Lelong.

Merck Fined $15,000 in Doryl Case

The maximum fine of $1,000 on each of 15 counts in an indictment charging misbranding of Doryl was levied against Merck & Co. by Federal Judge Meaney in Newark after the company had entered a plea of nolo contendere. The action was based upon the Government's claim that the words "do not use intravenously" which appeared on the label, means to the medical profession "that it is not to be injected directly into the veins and creates an implied impression that it can be injected into the skin tissues or muscular tissues. This, in the opinion of the Government, was misleading, especially when it is coupled with the failure on the part of Merck to warn that the crystals were not for injection at all."

Brodsky and Grey Join Pepsodent

George R. Stege, Jr., director of advertising for the Pepsodent division of Lever Brothers Co., has announced the appointment of Frank R. Brodsky as advertising manager, and Geoffrey Grey as display manager.

Henlan, Inc., Organized

Henlan, Incorporated, has been formed for the manufacture of chemical compounds used in the drug, pharmaceutical and cosmetic trades. The company is located at 160 Cortlandt St., Belleville 9, N. J. A. Alan Rattiner is president and Henry E. Rollat is vice-president.

Backstage at the first broadcast of the new Frank Sinatra Show. A. R. Pearson, Smith & Drum Inc.; Frank Sinatra; Max Factor Jr., president of Max Factor & Co., sponsor of the program; and Harry W. Witt of C.B.S.

Roley Joins Wyeth

Richard Roley has been named public relations director of Wyeth Incorporated, Philadelphia, subsidiary of American Home Products Corp., it has been announced by Harry S. Howard, president of Wyeth. Prior to his new appointment, Mr. Roley was with the Fred Eldean Organization, New York public relations firm, where he was active in the program of the National Pharmacy Committee on Public Information.

RICHARD ROLEY

Clare M. Doris, who recently came to Wyeth from the editorial staff of the *Armstrong Reporter*, has been named associate director of public relations.

Monsanto Advances Nine

Monsanto Chemical Company's organic chemicals division has announced the promotion of nine members of the sales staff. They are: R. F. Caulk to manager, flavors and condiments sales; I. J. Stanley, Jr., to manager, heavy chemicals sales; A. P. Kroeger, to manager, intermediates chemicals sales; R. B. Semple, to manager, petroleum chemicals sales; C. W. Merrell, to manager, pharmaceuticals sales; C. H. Sommer, Jr., to manager, plasticizers and resins sales; H. C. Koehler, to manager, special products sales, and H. F. Shattuck, to assistant manager, sales development.

It is expected that with the ultimate return to sales of personnel now in military service or production, all the above men will be relieved of routine duties and will devote their time to nation-wide development of their fields.

Mr. Semple, formerly associate director of development, succeeded Arnold H. Smith, now assistant director of the company's foreign department. Mr. Shattuck has been Monsanto's chief Washington representative for the last four years, and Mr. Koehler has spent three and a half years as supervisor of purchase priorities.

Mary Rolland Joins General Drug

Mary A. Rolland, formerly of the War Production Board, Aromatics and Intermediates Branch, Washington, has joined the staff of General Drug Company, Aromatics Division.

For the War Production Board, Miss Rolland was in charge of priorities for aromatics and intermediates and was the administrator on the allocation orders for benzaldehyde and diphenylamine.

Harang Elected Vice-President

Pierre L. Harang, for the past ten years sales manager, and before that factory manager, of the Houbigant Sales Corp., New York, has been elected vice-president in charge of sales, it was announced by Andre Wick, president. Prior to joining Houbigant twenty-two years ago, Mr. Harang was one of the top-ranking tennis players in France.

PIERRE HARANG

McKesson Animal Department

McKesson & Robbins, Inc. has created a new department of animal remedies and agricultural chemicals. Dr. Walter Cecil Butler of Fort Worth, Texas, has been appointed head of the new department.

Russell Heads Monsanto in Detroit

William M. Russell has been appointed branch manager of its organic chemicals division for the Detroit territory, it has been announced by Monsanto Chemical Co.

H. P. Walmsley will continue as general branch manager for the Detroit territory, with general office supervision and responsibility for phosphate division sales.

Mr. Russell has been a Monsanto sales representative in the Detroit and Cleveland areas since 1938 and previously was a salesman in the flavors and condiments department.

Mendelsohn Joins van Pels

Max van Pels, importer and exporter of Egyptian henna leaves and other beauty preparation ingredients, has announced the addition of M. S. Mendelsohn to this staff. Mr. Mendelsohn has been active in the importing and exporting field for more than twenty years.

M. S. MENDELSOHN

H. H. Ayer Advances Mrs. Thomas

The board of directors of Harriet Hubbard Ayer, Inc., New York, has announced the appointment of Mary Sefton Thomas as a vice-president. Mrs. Thomas who is the daughter of Lillian S. Dodge, president, has been associated with the company for the past three years as director of exports, and supervisor of new packaging designs and advertising and displays.

J. A. Cox

Joseph A. Cox who headed J. A. Cox's Laboratory, Los Angeles, died late in December. He had resided in Los Angeles for the past thirty-one years and had established his own business in 1939. He was active in the California Cosmetic Association.

Joseph Kohnstamm

Joseph Kohnstamm, until his retirement in 1936, a member of the firm of H. Kohnstamm & Co., Inc., died January 18 after a long illness. He was eighty-six years old.

Don Stephen Mayham

Pfc. Don Stephen Mayham, son of S. L. Mayham, executive vice-president of The Toilet Goods Association, was killed in action at Metz, France, November 15, 1944. Solemn requiem mass was offered January 10 at Our Lady Queen of Martyrs Church, Forest Hills, N. Y.

Clifford E. Halstead

Clifford E. Halstead, chief of the professional service department of E. R. Squibb & Sons died suddenly of a heart attack January 28.

Mr. Halstead was born in Syracuse, N. Y., and was a graduate of Syracuse University where he majored in biological sciences and organic chemistry. He was a member of the faculty of that university for some years before joining Squibb in 1925. He played a prominent part in the development of Squibb's professional service department and served as chief for the past few years and associate chief prior to that.

Clarence W. Warner

Clarence W. Warner, president of the Maltbie Chemical Company, Newark, N. J., died February 4 at a Florida sanitarium of a cerebral hemorrhage suffered January 29. Mr. Warner, who

CLARENCE W. WARNER

was past president of the American Pharmaceutical Manufacturers Association, was 47 years old. He leaves a widow, a son, William Penn, and a daughter Jane Louise.

Alden Ray Vicary

Alden Ray Vicary, general manager and treasurer of the Mark W. Allen Co., Detroit, died at his home in that city January 6.

Mr. Vicary was a graduate of the Ontario College of Pharmacy, past president of the Allied Drug and Cosmetic Association and a life member of the executive committee of that association. He served his pharmaceutical apprenticeship in Sarnia, Ont., and later became affiliated with the Seely Manufacturing Co., Windsor, Ont.

R. E. Walker

Robert E. Walker, district sales manager for Anchor Hocking Glass Corp., Lancaster, Ohio, died December 29 after an illness of several months.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

February ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

Millions of Yards of Treated Duck Produced for Army

Expanded Tentage Program Takes Large Quantities of U.S.I. Resin

Early in the war, the Army Quartermaster Corps adopted a new and greatly improved type of treated canvas which is now adding much to the protection of army personnel and equipment against the elements, as well as the enemy. The program of development and evaluation has been long and arduous, requiring the testing of innumerable samples by laboratory methods and by exposure for long periods to varying climatic conditions. The results have been remarkable, and the properties towards which the Quartermaster Corps aimed have, in a large measure, been achieved.

Canvas, treated by this new method, has been greatly improved in durability by reducing the deleterious effects of sun and moisture and by incorporation of mildew proofing agents. The canvas is also practically impervious to rain. These characteristics are highly desirable when we consider that our armies are stationed throughout the world, in all types of climate.

Fire Resistance

The new treatment also imparts resistance to fire. The fabric is not completely fire-proof, but the compound employed effectively retards free burning. Fire hazard is thereby minimized as a further protection to personnel and equipment.

Camouflaging of tentage and tarpaulins is also vital. This is done by incorporating durable, high-strength coloring pigments in the coating compound, and thus imparting the desired color to the treated fabric.

The army is, today, purchasing enormous quantities of cotton duck and other fabrics,

(*Continued on next page*)

Treated Sheep Skins Resemble Finest Furs

Using existing machinery common in the fur industry, lamb and sheep pelts may be treated so as to resemble beaver, nutria, seal, or other similar furs according to claims made in a recent patent.

Though variants of the process are given, essentially it consists of applying to the skin a solution of nitric acid and denatured alcohol. After drying, the skins are passed through an "electrifying" machine in which they are heated, brushed, and combed. The pelts emerge with straight, lustrous, yellow filaments which will not re-kink upon subsequent wetting.

The final step is dying to the color native to the fur to be imitated.

Insoluble Alkyd Fractions Produce Superior Films

The results of a series of tests seem to demonstrate that films formed from alcohol-insoluble fractions of alkyd resins dry more rapidly, are harder and at the same time less brittle than the original alkyds.

Lower alcohols, such as ethanol, were found to be superior as selective solvents. The two extraction methods described both depend upon agitation of the resin in a fluid state with alcohol, which extracts the undesirable fractions. In both, the desired fraction was contained in the residue after the extract-containing solvent had been removed by decanting or other method.

Insecticide Improvement

It is reported that insecticides high in hexachloro ethane, such as those used for killing moths and their larva, can be increased in effectiveness by the addition of small amounts of para-chloro bromo benzene, chloro napthalene or para-dichloro-benzene.

Official U. S. Marine Corps photo

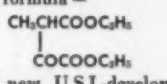
Ducking into a duck-covered foxhole. Colored pigments, incorporated with the resins and other ingredients in the duck-treating compound, provided the camouflage which baffled Jap airmen.

Valuable Uses Seen For New Intermediate Developed by U.S.I.

Ethyl *a*-Oxalpropionate Offered for Organic Synthesis Research

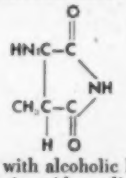
Ethyl alpha-oxalpropionate is a new U.S.I. product which affords another interesting example of the versatility of U.S.I.'s sodium ethoxide as a condensing agent. It is prepared by condensing diethyl oxalate with ethyl propionate in the presence of sodium ethoxide. It may also be synthesized from ethyl sodium oxalacetate and methyl iodide.

Alpha-oxalpropionate has the following physical characteristics: mol. wt., 202, sp. gr., 1.0977 @ 20°/20° C., refractive index, 1.433 @ 20° C., boiling point 108-109 @ 5.5 mm. Hg. abs. Color light yellow to colorless. It has the structural formula —



Like other new U.S.I.-developed Claisen condensation products, ethyl alpha-oxalpropionate appears to have many as yet unexplored uses as a starting material for organic synthesis. Some of these possibilities are suggested by the following reactions:

1. On distillation it loses carbon monoxide to give diethyl methylmalonate.
2. On heating with ammonia it forms alpha-methyl-beta-iminosuccinimide:



3. On boiling with alcoholic KOH it breaks down to propionic acid, oxalic acid, and alcohol.
4. On heating with ethyl iodide and sodium ethoxide it yields alpha-methyl-alpha-ethyl-oxalpropionic ester.

(*Continued on next page*)

B-Complex Vitamin Produced by Alcohol Crystallization

A recently granted patent covers new methods for producing dextro-pantothenic acid, part of the vitamin B complex, by resolving racemic pantothenic acid in to dextro pantothenic acid by fractional crystallization.

One method starts with d-l-barium pantothenate dissolved in ethanol. This solution is treated with an ethanol solution of quinine sulfate. The combined solution is freed from barium sulfate by centrifuging.

To remove the crystals of quinine salt of levo-pantotheic acid, they are precipitated by evaporating the solution and chilling. The mother liquors are then evaporated to dryness, and the residue dissolved in acetone, which separates the quinine salt, leaving dextro pantothenic acid.

The yield is about 23 per cent of the combined weight of the d-l-barium pantothenate and the quinine.

ADVERTISEMENT—*This entire page is a paid advertisement.*

February ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Wool-like Synthetic Made from Peanuts

Peanuts, already widely used as a source of oils for salad dressing, margarine and high-grade soap, now are used as the raw material for a new synthetic fibre. The fibre is described as being like wool in many respects, and superior in others. For instance, it will not shrink, and is immune to attack by moths.

The new fibre, named Ardil, was developed in Great Britain, and is waiting the end of the war for large production. It is a cream-colored, crimped, resilient fibre which is said to be soft and warm to the touch, and to absorb moisture as wool does.

Ardil, according to its inventor, is not intended as a substitute for wool, but as a complementary fibre, to be used in combination with other fibres to impart new qualities to fabrics. It is expected that, under quantity production, the new fibre will turn out to be less expensive than wool.

Deodorant Reported To Neutralize Acids

In a suggested formulation, acid secretions of the body react with hexamine to liberate formaldehyde, which is antiseptic and astringent. As the acid becomes neutralized, decomposition stops, thus avoiding irritation which would occur from the use of formalin alone. The formula comprises 3 parts hexamine, 40 parts denatured alcohol, and orange-flower water to make 100.

New Intermediate

(*Continued from preceding page*)

5. On heating with dilute H_2SO_4 it gives propionylformic acid (alpha-oxobutyric acid), alcohol, and CO_2.

6. On hydrogenation it gives diethyl alpha-hydroxy-beta-methyl-succinate, which upon further hydrogenation forms 3-methyl 1, 2-butanediol, 2-methyl 1, 4-butanediol, and alcohols and water.

7. In alcoholic solution it gives an intense red color with ferric chloride.

Limited quantities of ethyl oxalpropionate are available from U.S.I. for research.

Treated Duck

(*Continued from preceding page*)

treated by this new process, for tents, tarpaulins, gun covers, webbing, and for the production of many other articles.

The Quartermaster Corps has set rigid requirements which must be met by all goods supplied. The applicable specification, JQD 242, is essentially based on performance tests, although the use of certain ingredients in the treating compound is generally considered mandatory. The use of certain other ingredients which may present objections is forbidden.

Resin Used

The compounds used by various suppliers differ somewhat, but in general they are composed of combinations of chlorinated paraffin, a high-quality hard resin and a plasticizing resin pigmented with antimony oxide, calcium carbonate and coloring pigments. These ingredients are usually dispersed in a volatile solvent and the resultant compound is applied by knifing on both surfaces of the canvas, or by impregnating the fabric by immersion in a bath of the liquid compound.

U.S.I. resins are playing an important part in this tremendous program which is now taking essentially the entire capacity of duck manufacturers and is utilizing the facilities of many textile finishers.

This textile development is destined to play an important role in the post-war era and resin-treated fabrics of this, and similar types, will be widely used for the manufacture of tarpaulins, awnings, commercial tentage and similar items. The knowledge and experience gained in the flame-proofing of canvas will also be utilized in the production of flame-retardant decorative and other fabrics.

Unsaturated Triglycerides Separated by New Process

Unsaturated triglycerides alone have greater utility than the natural oils and fats in which they occur. Particularly is this true of the drying oils used in coatings.

A patent has been granted on a new and simplified process for separating the unsaturated triglycerides from the mixture of saturated and unsaturated ones.

Natural oil containing a mixture of saturated and unsaturated triglycerides is mixed with ethanol and then heated. Upon cooling, the solution separates into a solvent layer and a precipitate layer. The solvent layer contains the unsaturated triglycerides.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Priority-free aluminum paint, which is said to be improved by increased pigment and solid content, and with a slower drying rate, is offered for exterior and interior use. One coat is said to cover metal, wood or concrete. **(No. 900)**

USI

A rust dissolver, claimed to have a great affinity for ferrous oxide, and none for unoxidized metal, is on the market. The new product is slow drying, and thus has more prolonged rust-dissolving action. **(No. 901)**

USI

A vegetable-tannin replacement, completely soluble in either hot or cold water, is announced as being the first complete synthetic alternate for vegetable tannins. Leather produced with it is claimed to be the equal of natural tannin products. **(No. 902)**

USI

A photoelectric pH meter is described by its manufacturer as being valuable also as a colorimeter and turbidimeter. Meter is claimed to be accurate and to give direct readings. It is designed for operation with ordinary Pyrex test tubes. **(No. 903)**

USI

A plastic coating, which may be heat-cured to form an insoluble film, is the claim made for a new liquid resin. Among suggested uses are linings for metal food containers and as an exterior protective coating on black iron. **(No. 904)**

USI

Rubber-to-metal adhesion is said to be improved by a new priming compound. Among the uses suggested are as an ingredient in coatings and as a coating to impart acid and alkali-resistant qualities. **(No. 905)**

USI

Fluorine-resistant glass is announced. Corrosive hydrofluoric acid, that disintegrates ordinary glass, is said to have no effect on the new product. It can be drawn, sheeted, blown, ground and polished. **(No. 906)**

USI

A rate-of-flow meter, designed to operate by differential pressure and to give direct readings in gallons per minute, is announced. It is connected to the line by two tubes attached to two sides of an orifice plate. Meter can be calibrated to give full-scale reading on any differential pressure up to 10 lbs. per sq. in. **(No. 907)**

USI

A multi-purpose pump, designed to handle a wide variety of viscous materials, such as paint, lacquer, mastic caulking compounds, cement coatings, and fibrous insulating materials, is now in production. **(No. 908)**

USI

Synthetic resin seals, such as gaskets, washers and diaphragms, said to replace rubber, are being made to buyers' specifications. Among the qualities claimed are flexibility, elasticity, and resistance to abrasion and organic solvents. **(No. 909)**

USI

A slime-controlling fungicide, for use in paper manufacture, is described as being tasteless and odorless, but is offered with the warning that it needs careful handling and is not recommended for paper whose end use is food packaging. **(No. 910)**

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OXALIC ESTERS
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PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS
*Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
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Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

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S&W Congo Gums—raw, fused & esterified
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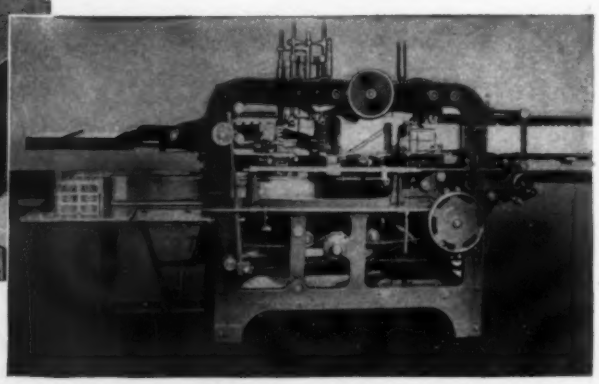

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Production Forum

By Francis Chilson
Industrial Consultant

Single vs. Multi-Story

I am going to keep hammering away at this topic until I have created a universal awareness in the trade that in designing a new factory building, you are placing a floor under operating costs and that the height of this floor will depend exactly on the type of building you erect. I must confess I sometimes feel that I am spitting against the wind, especially when I hear that two prominent firms, both located in small towns and both owning plenty of cheap land, are planning to build new factories, one being 4 stories in height and the other 6. I know in one case the manufacturer is intent on building a monument—though God knows why, since nobody but the people in the small town will ever see the building. As Barnum said "There's one born every minute," and regardless of how much engineers and production men yell about operating costs and the influence of building design on these costs, monuments will continue to be built to satisfy the egos of The Boss. But if monuments must be built, I fail to see why the creative energy and dough thus spent, is not spent wholly on laboratory and office buildings, instead of on factory buildings where the structure has so much to do with determining the cost of manufacture.

Some of the boys have protested that even in our trade there must be some special conditions where the erection of a multi-story building would be justifiable. That is true. Elsewhere I have defined a multi-story building as a building over three stories, since a second and third story can be used to house offices, laboratories and service operations without detriment to material handling and processing. If the terrain permits it, I have no objection to a multi-story structure for certain special manufacturing operations. In one instance, I examined a site for a large tonnage operation in which the railroad is located on the edge of a deep fill immediately adjacent to the plant site proper. In this particular instance the heighth of the railroad siding above the surrounding terrain will make possible the receipt of materials directly into the third floor of the new building when it is erected. Since the major portion of the outgoing shipments are distributed by truck and since virtually none of the raw materials is ever received excepting by railroad, it follows that exceptions like this can be made without destroying the logic of my original argument. In this case, warehousing will be done on the third floor; processing and packaging on the second; finished stock and shipping on the first. Under such circumstances, the arrangement is ideal up to a certain point. But even here it must be remembered that the equipment loading operation is done on the third floor and hence processing is, to this extent, split up. If in the future, however, the products of this business should change to such an extent that materials are received by truck and shipped out by car, the building obviously will be just another mess from a material handling standpoint. Even in a case like this, if it were left to me, I would prefer a site paralleling the railroad track and I would use a single story operation with conveyors to handle the material even though handling such material with conveyors involves a critical cleaning problem.

Security

In the post-war period I hope we can all be more realistic and intellectually honest in dealing with our employees, whether they are run-of-the-mill workers or executives. First of all, I think we should stop talking so much about "security." We know in our hearts when we employ a person that we are talking "from the mouth out" when we dwell upon the security a given job offers. When we make such promises we are, in reality, promising something that is wholly beyond our control. Too many economic and political factors affect the future of any business for employers to promise "security" to anybody. The employer hasn't got it himself so, therefore, he should stop mouthing empty phrases.

By the same token, an employee—and particularly a candidate for an executive post—reveals his calibre when he places much reliance on the security a particular job offers. Inferentially, he expects the momentum of the organization to carry him along when he should at all times be willing to stand or fall on his own merit.

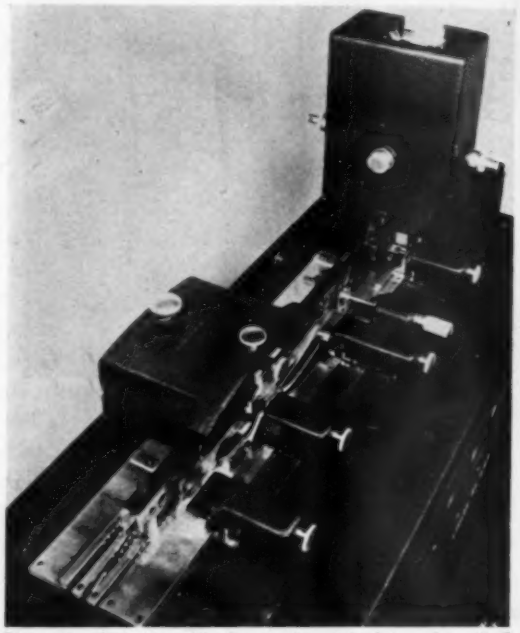
In twenty-five years of experience I have been through many reorganizations. That is my business. In that time, I have seen many older men eliminated from what they supposed were "secure" jobs by the workings of inexorable economic laws. And the pity of it is that very often a man is forced to make a change at a time in his life when his market value has begun to go down very radically.

Before commenting on a case history I'd like to clarify my attitude by suggesting that all new employees in the future be told that "security" depends on their own contribution and the continuity of the business. It should be explained to them that the continuity of any business, however prosperous it may seem at any given time, is always dependent on forces beyond the control of the employer. The only "security" you can give any employee is what you actually give him in the form of wages, salaries, bonuses, securities, or paid-up insurance and annuities. Life insurance annuities and other forms of pension plans are splendid if one lives long enough to enjoy their benefits. But as the saying goes, "a bird in the hand is worth two in the bush."

Many corporate enterprises are listed on the stock exchanges and, hence, are not always subject to control by individual large stockholders or families. Other corporate enterprises are almost entirely owned by families or small groups, and are known as "closed corporations." To show you how tenuous a man's connection with either type of organization may be, I'd like to cite a case history.

The first deals with a family owned corporation, the name of which is well-known to you all. The family controlling this company was old and there were no male children upon whom the continuity of the business could depend. The owners of this business realized that if any of them died suddenly, there would be an insufficient local market for the large blocks of stock that would have to be sold. They also realized that, in the event of death, the value of this stock would be determined by the government in its relation to the value which the stock had at the time the decedent acquired it. In the particular instance, the current value of the stock was about $3,000.00 per share. When it was acquired by the owners of the company it was worth about $16.00 per share. So, what to do? If the stock had been sold for cash you can imagine what a chunk Uncle Sam would have taken. So, the easy, obvious answer was to merge with a large listed corporation and accept listed stock in exchange for the original stock. This listed stock obviously can be disposed of at the time of death of any of the original owners without forcing the estates to take tremendous losses.

Of course, left wingers may point out that the original owners might have been decent and generous enough to work out some plan of employee participation and that they might have effected a financial reorganization which would have made the stock more liquid and which also would have rewarded the individuals who helped the owners to build the business. But while agreeing with this thesis, I will not comment on it further because I'd like to cite the effect of the merger on the people who really developed the business. Well, you know the answer: the new outfit had its own sales manager so within a year, the old one was bounced. The duties of the comptroller and treasurer were absorbed by a similar official in the larger organization. Only the plant was permitted to continue operation for a short period of time and then it was absorbed by other similar plants owned by the purchaser. So, through no fault of their own, a group of splendid men



Ross Semi-Automatic Carloning Machine described in January Production Forum.

were tossed on the rock pile and a large number of rank-and-file employees had to look elsewhere for work. You can hardly blame the owners either because they took the most direct and safest way of protecting their equities. It must be said in passing, however, that it occasionally does happen that absorption by a larger unit offers greater opportunities for the executives on the staff of a smaller one. But this is certainly not the rule.

Publicly owned corporations are, if anything, more subject to sellouts and mergers than privately owned corporations. It frequently happens indeed that a privately owned corporation controlled by an individual family with a higher degree of social responsibility will establish trusts for the protection of people who helped them to build the business. But again, this is not the rule.

Both listed and unlisted corporations are bought and sold like any other commodity so you take your pick and "you takes your chances."

So, in the uncertain world of the immediate future let's all be more realistic with ourselves and our people. Let's make them realize that in a long range sense,

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Here is high-speed uniform heat—precision controlled and directed—offering tremendous possibilities for new products and new processes . . . for faster, more efficient production . . .

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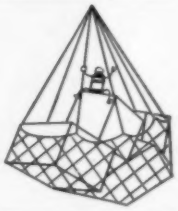
Listen, soon I'll be headed overseas to a battle front.

I'll get handled, rehandled, and jounced around plenty before I get there.



But this I'm sure of... my cap will stay on as tight as if I'd floated over on a cloud.

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there is no such thing as "security" for anybody. Let everybody be taught to create his own security by his own efforts. But one thing we can do—we can help them in this by doing a lot more than wishful thinking about means of employee and executive participation in the profits and ownership of the businesses they are helping to create.

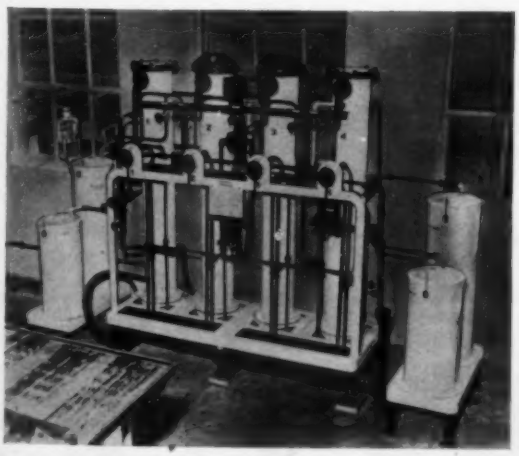
Not long ago, I was present at a meeting at which the president of a successful drug firm told his employees; "The bankers tell me I can sell this business for four million dollars. I own it all and since it is legally my property I can sell it. But I am not selfish enough or fool enough to believe that this business succeeded by my own efforts alone. Without your help it wouldn't have amounted to anything. Now, I am going to get out. I want you fellows to set up a committee and determine what my fair share is. Give me that and you can have the rest."

To say that everybody was speechless, would be to put it mildly! At this very moment, an employees' trust is being worked out to take over the business. As soon as I can I'll tell you who this unusual and unselfish man is. But, in the meantime, I am worried lest the boss' unusual action may cause his associates to inquire into his sanity. Such actions seldom occur outside fairy tales. But I wish many others would follow so noble an example.

Filt-R-Stils

Ordinary water can now be transformed into the chemical equivalent of distilled water by a simple filtration process developed by American Cyanamid and Chemical Corporation and made available in portable and stationary equipment designed for all types of users.

With these units, trade-marked Filt-R-Stil, water which is virtually mineral-free is made readily accessible for research laboratories; in electronic and electrolytic equipment fabrication; in the manufacture of textiles,



leather, paper, pharmaceuticals, food, dyestuffs, and many other products, as well as in the filling of storage batteries.

The principle of the Filt-R-Stil is one of filtration by skillful utilization of melamine-derived and other resins, developed by the American Cyanamid Company. Water is passed through beds of these ion exchange resins which transform the dissolved salts in the water to the corresponding acids and in turn absorb the acids. The process may be visualized by picturing

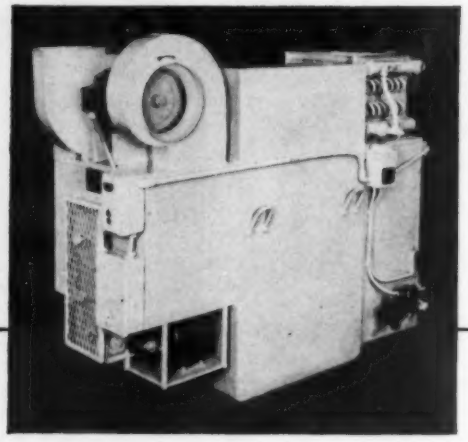
water as containing flowing metals which are attracted by a magnet except that the magnet, in this case, is chemical rather than electrical.

The final demineralized water has an average salts content as low as two parts per million as calcium carbonate, and has been produced as pure as one-half part per million. The process also removes dissolved carbon dioxide from the water, a feature of particular importance in its use in the electronic and electrical fields. So effectively has water been cleaned of its minerals that its specific resistance to an electric current has been increased to as much as 6,000,000 ohms, which compares with a resistance of 50,000 ohms previously considered to be very good.

The Filt-R-Stil is made in different sizes and capacities to meet various requirements. The small portable unit is made in two forms, one for field and the other for bench use. The field unit, designed primarily for use by the Armed Forces, supplies demineralized water for storage batteries and for electronic equipment where water free of dissolved salts is essential to make it a perfect insulating medium. The bench unit is designed for use in filling stations, drug stores, photographic studios, chemical laboratories, and similar applications.

The capacity of these small units is eight to ten gallons of demineralized water per hour. They are equipped with cartridges of ion exchange resins, which are

It's time to start worrying about next summer's high humidities



Summer's on its way sure as shootin'. And when too much moisture in the air starts upsetting your production, it's too late to do much besides grin and bear it. Right now, though, there is something you can do about next summer's high humidities—

Ask Lectrodryer what kind of machine you'll need to help you maintain the air in your processing, storage and packing rooms at constant moisture contents. Our engineers have been answering such questions for years.

Processors who work with "winter weather" the year around have been able to standardize their processes. Production is held at high levels. Products are more uniform and their quality is higher.

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renewable when exhausted, in much the same way as flashlight batteries are renewed. An automatic shut-off or warning device on each unit indicates when renewal of the cartridge is necessary.

The Filt-R-Stil Lab unit has a capacity of approximately thirty gallons per hour. It is designed for the larger chemical and research laboratories, hospitals, and other users where moderately large quantities of demineralized water are needed. The operation of the laboratory unit differs somewhat from that of the portable unit. In place of a cartridge, there are four beds of alternate cation and anion exchange resins in pyrex glass columns connected by an intricate piping system. As the water passes over the first bed, dissolved salts are transformed to the corresponding acids. These acids are absorbed on the second bed. The third bed picks up any dissolved salts which have leaked through and the fourth absorbs the remaining acids as well as removing the carbon dioxide.

In addition to these units, the Filt-R-Stil is also made in special sizes for large industrial users. Boiler plants, oil refineries, synthetic rubber plants, textile mills, etc. can thus obtain a continuous supply of thousands of gallons of demineralized water and other liquids can be handled in production volume for improved process developments as, for instance, in the sugar and chemical industries.

Both the Lab unit and the large, permanently installed units are equipped with a system for the reactivation of the ion exchange resins, which thus can be used over and over again. These units are also equipped with electronic controls, operating on resistant circuit in the water which indicate when the effluent water is mineral-free and or when the quality is below standard and regeneration is thus required.

Filt-R-Stil units are numbered among the recent new developments emanating from extensive research by the American Cyanamid Company in resins derived from the chemical, melamine, which the company commercially developed.

Foot Pump

Adding to their line of hydraulic pumps, which previously included hand and foot operated models for delivering pressures from 1000 to 3000 lbs. p.s.i., LYON-Raymond engineers have now developed a two-speed foot pump for pressures up to 10,000 lbs. p.s.i.

An outstanding advantage of this new pump is the automatic change speed feature. The pump has two pistons—one a high speed, low pressure piston, the other a small, slow speed, high pressure piston. Up to 1000 lbs. pressure both pistons pump oil, but at 1000 lbs. the high-speed, low pressure piston automatically cuts out and higher pressures (up to 10,000 lbs.) are easily developed by the small high pressure piston.

A great many applications calling for hydraulic pumps, require first of all that a volume of oil be delivered, and secondly that high pressures be developed. A typical example is the furnishing of power to a hydraulic cylinder where the ram must be extended a large portion of its total travel before it contacts the work and then high pressure must be applied for the final operation. This pump will provide the fast travel at low pressure, thus minimizing the delay in bringing the ram to the work, and without an increase of effort on the part of the operator, develop high pressures for the actual work. Maximum pressure can be pre-determined by the adjustment of a relief valve.

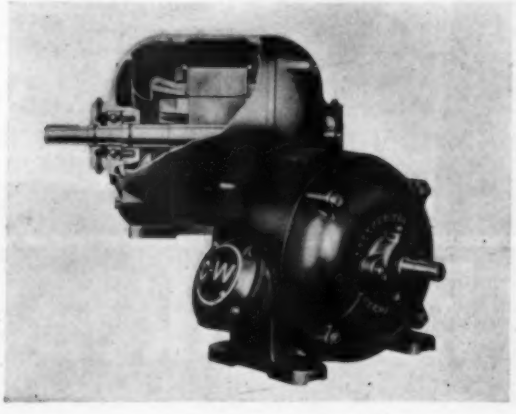
The pump is self-contained type, designed for continuous, heavy duty performance. It can be furnished with a base suitable for mounting or with an auxiliary base allowing it to be used on the floor without fastening (as shown in the illustration.) Lyon-Raymond Corp., 2008 Madison St., Greene, N. Y.

New Protected Motor

A new motor, combining the surplus capacity of the conventional open motor with protection against dripping liquid, falling metal chips and other foreign matter, has been developed by the Crocker-Wheeler Division of Joshua Hendy Iron Works at Ampere, New Jersey.

Rated 40 C rise, full-load continuous duty, with a 15 per cent service factor, Protected-Type Motors provide added protection at open motor prices. At present, these motors are available in sizes up to and including the 284 frame. Mounting dimensions conform to the standards of the National Electrical Manufacturers Association.

There are no openings in the frame or shield above the horizontal center line. This, together with the shielded construction of the ventilating openings, makes Protected-Type Motors suitable for machine



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tool and similar applications where other types of enclosures have been required in the past.

Centrifugal seals permit use of softer grease for better lubrication and longer bearing life. The Company's ALUCAST rotor construction, in which the bars, fans and end rings are cast in one operation from aluminum alloys, is employed.

Other features of these many-purpose motors include: heavy cast frame construction, coils protected by Vinyl Acetal insulation, interchangeable front and rear shields, and specially designed guides for directing cooling air over all surfaces.

Powder Fillers

As might have been expected, my friends who build powder filling equipment promptly took a smack at me for castigating the equipment now available. On the other hand, two of my readers came through with descriptions of powder filling equipment which they have used and which in one case, they patented.

One of the jobs is a vacuum filler which was said to be both accurate and dustless in operation. The other is a centrifugal filler which does not employ augers at all. So, possibly a prod now and then may cause the powder machine boys to get down to cases and do a real design job on powder filling equipment.

Growing Drugs

You may recall that from time to time, several years ago, I urged a more widespread cultivation of crude drugs. This, I did, not only to assure an adequate and continuous supply but also to establish research in plant pathology on a broader basis, in the hope of producing drugs with better yields. Since my articles on this subject were written quite some time before the war, not too much attention was paid them because the supply of crude drugs seemed as entirely limitless, as the supply of hill-billy labor required to gather them. But the war changed all this and although the termination of the conflict may increase the supply of crude drugs from wild sources, it will be a long time, if ever, before the supply of cheap labor is as copious as it once was.

In the meantime, a considerable number of manufacturers have developed their own drug plantations—some of them with surprisingly good results. I think the effort is commendable and should be extended. From a research standpoint, the effort to produce better yield types of drugs could be facilitated if we could secure the cooperation of plant breeders who have facilities in different climates and who, because of this, are in a better position to force new hybrid strains.

I am thinking specifically of outfits like Burpee's, the seed growers in Philadelphia. This firm has plantations all over the United States, Mexico and in the West Indies. When they set out to produce a new hybrid flower, the seed of the selected plant is shipped from one locality to the other, so that the growth cycle of three or four years is squeezed into one. Burpee's have been able to change the color, odor, and texture of various types of flowers, and it stands to reason that it might be able to do likewise for drug yields if the services of their great organization could be enlisted in the effort. Since, as we all know, drug yields vary from crop to crop, it is reasonable to suppose that the influences affecting yield can be determined and controlled to produce consistently higher average yields than we are now getting.

Dust Collector

Manufactured in four sizes, the DUSTEX portable dust collector is designed to meet the need for an efficient and economical means of removing from the air dangerous and obnoxious dusts arising from industrial operations such as lint, shavings, grindings, etc. It is built by the Dust Filter Company, 4418 N. Clark Street, Chicago 40, Ill.

The principle underlying the unit is the compound action on the air-borne dust, first by centrifugal separation from the air stream and second, by impingement on the filter surface. Maintains constant static air suction of more than 4" at velocity of over 5000 LFM. This means more dust collected quicker. Completely fireproof. Units weigh from 75 to 200 pounds; are 30 to 51 inches high.

The DUSTEX separator successfully collects the most minute dust particles. Filter assembly consists of two corrugated layers of wire mesh covered with 60-mesh filter cloth. Filtered air is discharged through muffler to deaden air noise with but minimum resistance back into the room.

Use protects valuable equipment from abrasive or corrosive dusts; improves employee efficiency, comfort, morale and health by providing cleaner and more healthful working conditions.

Full descriptive literature is available from the manufacturer.

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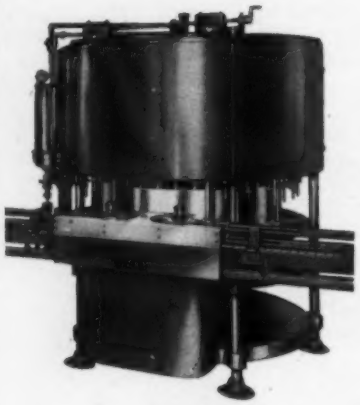

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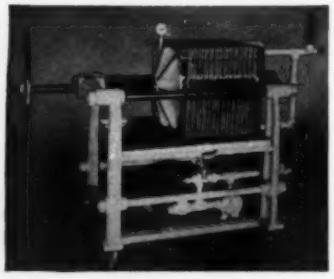

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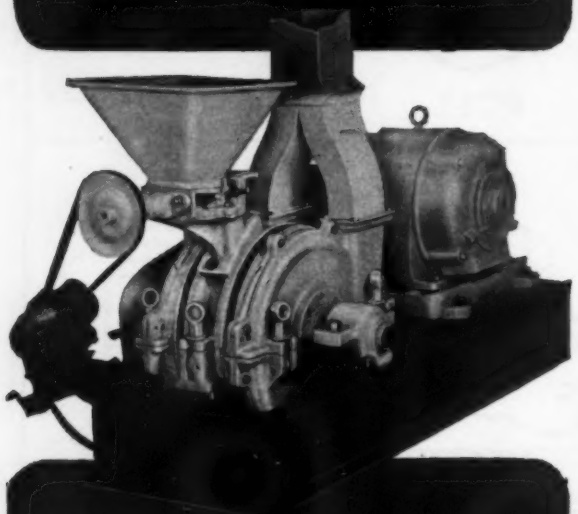

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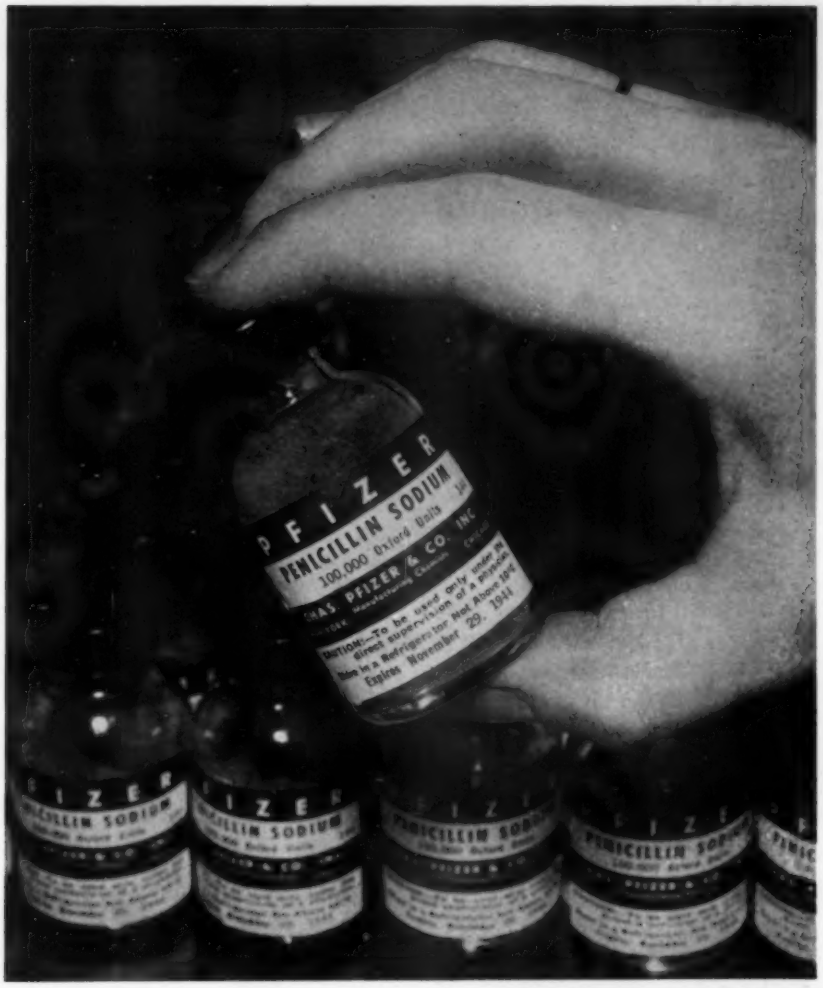

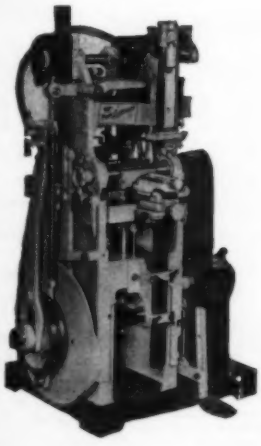

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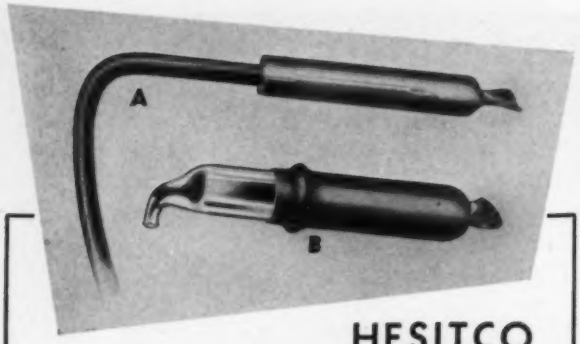

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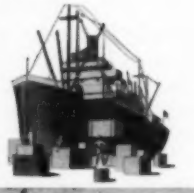

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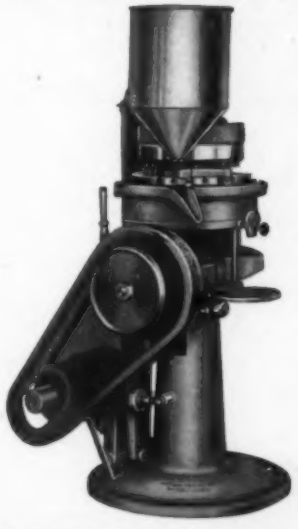

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American Arnica Flowers

A small town in Colorado, says an item in the *North Western Druggist* for October 1944, now supplies the arnica flowers that were previously imported. Resembling ordinary daisies, the yellow flowers grow wild in the meadow slopes of the mountain town and their medicinal value remained unrecognized until discovered in 1940 by a botanist seeking native drug sources. The harvest begins with the first blooms about the middle of July and continues for about a month. Before shipping, the flowers are dried and it requires about five and a half pounds of the fresh flowers to make a pound of the dried product. Since the beginning of the war, about 2,500 pounds of arnica flowers have been shipped East every year.

Perfumer's Shelf

Cinnamon Substitute

The war has caused a shortage of cinnamon, but the California Almond Growers' Exchange has discovered that ground almond shells can be used as a base. The substitute, although finer-grained and lighter in color, looks like the real thing, has a pleasing cinnamon flavor and is slightly stronger than genuine cinnamon.

Absorption Spectra of Essential Oils

It is stressed by C. A. Tarnutzer, L. A. Rittschoff and C. S. Boruff (*Ind. & Eng. Chem.* Analyt. Ed. 16:621, 1944) that the quality of alcoholic beverages such as gin, cordials, and liqueurs can be maintained only by rigid chemical control and taste tests. Flavor control starts with the correct selection of botanicals and other materials used for their flavor value. Specifications for the purchase of such flavoring substances are based upon chemical constants, which necessitates long chemical determinations. Being of the opinion that some rapid method such as the determination of the extinction values or the α-dicarbonyl content of the volatile essential oil might be correlated with the flavor examination of the finished product, thereby giving a rapid and accurate method for the estimation of the flavor value of the botanical, a test devised for detection of α-dicarbonyl compounds in fatty materials has been extended to volatile essential oils. Tests on juniper berry, orange peel, and coriander seed oils confirmed that such procedures may be used to rapidly and accurately estimate the flavor values of these botanical substances.

At the present time extinction values and α-dicarbonyl values are included in the specifications for the purchase of raw materials, for it is believed that they give some indication of the geographical growing district and the age of the botanical. Both the growing district and the age are very important from a flavor standpoint. Spectral data, it is stated, assist in maintaining correct flavor values.

Camphrene Purification Patent

According to G. Etzel in U. S. Patent 2,358,855, technical camphene synthesized from pinene contains impurities which have approximately the same boiling point as camphene and hence are difficult to separate by the usual methods. When converted to camphor, this technical camphene results in a product containing a substantial amount of impurities. To remove these impurities, methods are described whereby the impurities in technical camphene are converted to higher boiling compounds from which the camphene may be separated by fractional distillation.

Although several methods are given the most practical and satisfactory procedure consists in heating the technical camphene in the presence of a surface active catalyst and particularly a solid silicate catalyst. The surface active catalysts may be divided into two groups. The first, represented by vermiculite, requires temperatures between 225° and 350° C., the second, with fuller's earth as a preferred representative of the group, requires lower temperatures between 100° and 200° C. The reaction may be carried out in a closed vessel in the presence of air or other inert gas.

An Orchid for Vanilla

An orchid that is grown for its fruit rather than its flower as the end product is the vanilla plant. In a botanical paper on this world-famous so-called "bean," cited in the December 15, 1944 issue of the *Chemurgic Digest*, D. Correll describes vanilla as the most important and famous flavoring substance which the Americans have contributed to the world. Although there are artificial substitutes, Correll feels that the delicate ephemeral essence of the natural product has not been completely captured by the test tube, and growers are little concerned over the encroachment of the synthetic products.

Natural Coumarin Derivatives

The method devised by P. Casparis and E. Manella (*Pharm. Acta. Helv.* 19:158, 1944), for the detection of coumarin derivatives in drugs has been applied to a number of umbelliferous plants. The fruits of anise, caraway, and fennel were found to be free, while in parsley fruit there was only a trace. The fruits of *Laserpitium latifolium* and of *Pastinaca sativa* contained coumarin derivatives, while the root of the latter did not. The glycoside laserpitin, is not a coumarin derivative.

Flower Scents

The popularity of flower scents especially for Spring and Summer wear has stimulated production of new and interesting compositions by the perfumer. With flower oils practically unobtainable due to war conditions the perfumer has had to adapt his flowery scents to the raw materials available. Most important in most flowery compositions is jasmine and since the natural is practically unobtainable the use of a good synthetic type must be developed.

The analysis of the natural flower oil has shown it to contain benzyl acetate, linalool, linalyl acetate, indol, methyl anthraninate, jasmone and other bodies, some of which have been identified, such as geraniol and para cresol. Benzyl acetate is the most important constituent of artificial jasmine and is

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OF all the essential oils employed in so-called technical products, citronella and sassafras are among those most widely used. Frequently in short supply, if not totally unavailable, manufacturers, without exception, have had to resort to substitutes. Many who have used our specialties — JAVOLLAL and SAFRELLA — will continue to use these excellent replacements even when stocks of genuine citronella and sassafras become abundant. May we tell you why?

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AT the time these two aromatic specialties were first offered, there was no shortage of natural oils. They were competing as replacements, solely on their own merits — and in order to sell, *they had to be good!* Today they have behind them the practical indorsement of hundreds of satisfied users.

JAVOLLAL is an excellent substitute for oil citronella. It is more stable, has a finer, cleaner odor, is stronger and more lasting. It is recommended for use in soaps, insecticides, stock and cattle sprays and other technical products.

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present up to sixty-five per cent in the natural oil. Linalyl acetate and linalool are important as well as ylang ylang, a few shipments of which have recently arrived from Reunion. Indol is important but unfortunately it discolors creams and powders but is excellent in toilet waters or perfumes.

The following formula illustrates the use of these materials:

Methyl Anthranilate	**17**
Ylang Ylang, Bourbon	**55**
Linalyl Acetate	**120**
Cinnamic Alcohol	**30**
Amyl Cinnamic Aldehyde	**120**
Musk Ketone	**25**
Phenylethyl Alcohol	**250**
Hydroxycitronellal	**115**
Phenyl Propyl Acetate	**25**
Phenyl Propyl Alcohol	**10**
Indol, 1% solution	**600**
Benzyl Acetate	**650**
Para Cresol	**2**

Essential Oil from Apricot Kernels

In a report on apricot kernel oils appearing in the *Bulletin of the Imperial Institute* (42:153, 1944), Miss Baldwin states that apricot kernels are used for the production of fixed oil, volatile oil and a paste for use in confectionery. The fixed oil is extracted either by pressure or by means of such solvents as carbon disulfide, ether and chloroform. This oil is used in medicine for the preparation of emulsions, in soap-making and for cosmetics, and as a salad oil.

The volatile oil is extracted by the process of maceration and distillation. This used to be done mainly in Grasse (France). This oil may be used in perfume production, in confectionery and, for the sedative action produced by hydrocyanic acid, in medicine.

Volatile apricot kernel oil differs in no sensible degree from oil of bitter almonds. It does not exist as such in the kernel, but results from the hydrolysis of a glucoside, amygdalin, under the influence of the naturally existing ferment emulsin. The fatty oil is obtained from the kernels by expression, and the press-cake crushed and digested with water. Amygdalin, taking up two molecules of water, yields benzaldehyde, dextrose, and hydrocyanic acid. Amygdalin is a crystalline body, without any smell of the bitter almond, and does not yield the oil except under the influence of a hydrolytic agent, such as the natural ferment emulsin, or by boiling with dilute acids. The action of the ferment is destroyed by heat or by warm alcohol. Hence if dried and powdered kernels are shaken with boiling water and distilled, no oil is obtained. After the fixed oil has been expressed the press cakes are ground up and soaked for about twenty-four hours in twice their weight of water, to which a quantity of salt is usually added. The whole is then subjected to distillation. Some trouble, however, is experienced during the process, as the large quantity of albuminoids present causes excessive frothing. To remedy this, the press-cakes are coarsely powdered and at once immersed in boiling water to coagulate the albuminoids and dissolve the amygdalin. The emulsin is, of course, rendered inactive, so that on cooling, a quantity of emulsin of the fresh cake in cold water is added to the previously treated mass. This is allowed to stand, until the emulsin will have converted the whole of the amygdalin into essential oil. The mixture is now distilled. As hydrocyanic acid is a very deadly substance, it is necessary to use great care that none of the vapor is allowed to escape into the air. In most cases the distillation is effected by direct steam. The oil thus obtained contains a considerable amount of hydrocyanic acid; the remainder being principally benzaldehyde. Various methods are used to deprive the oil of its poisonous constituent; the following being one suggested by Redwood: The oil is mixed with its own volume of water, and the mixture left on a water bath with red oxide of mercury, slaked lime, and ferrous chloride, out of contact with the air. After all the prussic acid has been decomposed, the oil is rectified and contains no trace of prussic acid.

Benzaldehyde is very readily oxidized by atmospheric oxygen to benzoic acid, so that the oil almost invariably contains traces of this substance, and if kept in bottles that are not quite full the oxidation becomes more rapid and crystals of benzoic acid are deposited. This is especially true of oils freed of prussic acid. It has been said that the addition of 10 per cent of alcohol retards this oxidation.

The volatile oil is a highly refractive liquid of powerful odor having the following characters:

Specific gravity	**1.045 to 1.070**
Optical rotation	**0° to +0° 10′**
Refractive index	**1.5320 to 1.5450**

A higher specific gravity indicates a very high amount of hydrocyanic acid, or an abnormal amount of benzaldehyde-cyanhydrin.

The oil is more soluble in water than almost any other essential oil, 1 part dissolving in 300 parts of water at ordinary temperature.

Deprived of its prussic acid the oil has the following characters:

Boiling-point	**179°**
Specific gravity	**1.049 to 1.055**
Optical rotation	**0° to +0° 10′**
Refractive index	**1.5420 to 1.5460**

The oil should not contain more than 1 per cent of benzoic acid as determined by titration with decinormal alkali: higher percentages indicate that the oil is old or has been badly stored, and its odor and perfume value are proportionally lower as the benzoic acid increases.

The constituents of the oil are: benzaldehyde, to which the almond odor is due, hydrocyanic acid, and benzaldehyde-cyanhydrin, $C_6H_5CH(OH)CN$, which, however, is easily decomposed into its components by distillation with water, so that an oil which has been deprived of its hydrocyanic acid directly after distillation may be practically free from benzaldehyde-cyanhydrin.

The principal adulterant of this oil is synthetic benzaldehyde which is almost impossible to detect, unless it contains, as it very frequently does, traces of chlorine, due to impurities formed in the course of manufacture. Another adulterant, of a much grosser character, is oil of mirbane. This is the cheap almond oil substitute so largely used for perfuming common toilet soaps.

The oil may be used as a flavoring essence in cooking and confectionery, and in the manufacture of perfumes such as heliotrope and muguet. It may also be used as a substitute for the oil of bitter almonds, which has a wide application in the soap industry.

German Verbenaceae

In discussing the *Verbenaceae* of the German drug trade, K. Breitweiser (*Pharmaz. Ind.* 10:76, 1943, through *Chem. Abstr.* 38:4754, 1944) presents pertinent facts concerning these botanicals. *Lippia dulcis* Trev. contains 0.3 per cent of volatile oil, but no alkaloids, saponins or glycyrrhizin. *Lippia citriodora* contains 0.2 per cent of essential oil and is valuable as a stimulant, antispasmodic and stomachic. *Verbena officinalis* L. contains verbenalin and an essential oil. It displays a diuretic effect on laboratory animals. *V. officinalis*, *Clerodendron trichotomum*, *Cl. fallax*, *Cl. ugandence* and *Vitex agnus-castus* all have anthelmintic properties.

A Lowly Mold that is making Medical History

MANY stories have been written about the casualties of this war — stories of men saved who would not have survived in other wars — stories of nurses and surgeons working with an effectiveness hitherto impossible. And in nearly all of these stories the word "Penicillin" appears. While its use in this war has monopolized the headlines, the men behind Penicillin — the discoverer, the developer and the manufacturer — working quietly and known to but a few, are responsible for providing this really remarkable drug.

Penicillin was discovered by Sir Alexander Fleming of the University of London in September, 1928 when a mold spore accidentally drifted on to a culture plate of bacteria. Dr. Fleming would probably have discarded the plate, but for a peculiar thing—the mold was surrounded by a clear space in which no bacteria grew. Some substance that the mold was giving off was destroying the bacteria!

Dr. Fleming was so intrigued that he began to cultivate the mold and try the strange secretion on many types of bacteria. His results were varied. He experimented with it on human blood and found that although it checked the growth of bacteria, blood corpuscles remained unharmed. This was significant because up to that time he knew of no antiseptic that would not do more damage to blood corpuscles than it did to bacteria. He named the potent substance "Penicillin" and published his findings.

Some further research and study were given to these findings and in 1938 Sir Howard Florey of Oxford and his co-workers set out to grow the mold and isolate the material that would kill bacteria. It was a long, tedious process. The mold product was unstable. Test after test had to be made, substance after substance eliminated. By 1940 they were rewarded. The pinch of brown powder they had tracked down was so potent that one part in several million would slow bacterial growth.

Although Dr. Fleming had made test-tube tests with Penicillin and human blood, it remained to be seen how the patient would react. The scientific route of mice to men was followed. Mice were injected with a notorious wound-infector. Penicillin was administered to some. In 24 cases out of 25 Penicillin won. Dr. Florey felt justified now in subjecting human beings to the test. Patients who had failed to respond to every other drug were chosen—people who were desperately ill. In a wide range of infections, the response was amazing.

There were still many obstacles. The mold was temperamental. Growing conditions were very exacting. And even when it grew, it frequently failed to produce the vital substance. Its introduction into hospitals would depend on production in large quantities. But England's production front was already limited because of other demands. Dr. Florey came to America to seek the cooperation of our manufacturers in the utmost production of Penicillin.

Chas. Pfizer and Company, who were already doing laboratory work on this new drug, were one of the first American chemical houses to collaborate with the British group. Pfizer by the Fall of 1941 were recovering Penicillin from the fermentation liquors. As Penicillin was still so new, methods of administration had to be studied; surgeons, civilian and military, had to be taught how to use it. In the Winter of 1941-42 Pfizer supplied the first Penicillin for clinical use. Shortly thereafter Pfizer made their first delivery of Penicillin to the United States Government. By 1943 Pfizer had a pilot plant producing considerable quantities of Penicillin. By the end of the year ground had been broken for the present large-scale production plant which is now producing beyond its rated capacity.

Although Chas. Pfizer and Company is proud of its achievement as the World's Largest Producer of Penicillin, every effort is being made to exceed present production in the hope that the supply of Penicillin will be sufficient to meet every demand.

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ADVANCING THERAPY

Cod Liver Oil for Bladder Disorders

The instillation of cod liver oil into the bladder has been recommended because of the antiseptic, analgesic and epitheliogenic properties of the oil. In a series of 25 selected cases of urinary bladder disorders these properties were confirmed by E. E. Ewert and H. A. Hoffman (*Lahey Clinic Bull.* 4:27, 1944). The results obtained in the treatment of leukoplakia of the bladder were highly encouraging and the beneficial effects further warrant its use as an adjunct in the symptomatic management of tuberculous cystitis and in bladders with delayed healing after cauterizing procedures.

They routinely instill two ounces of the cod liver oil through a catheter; and if care is taken during the instillation no obnoxious odor is perceptible. In patients suffering acutely, a semi-weekly instillation has proved to be optimal, but in most instances, an instillation once a week suffices. Since the oil tends to clump the debris which may be retained in recesses in the bladder, they have found it advisable to lavage the bladder before each instillation with a dilute (e.g. 1:10,000) potassium permanganate solution.

Zinc Peroxide for Gas Gangrene

In a detailed report of a case treated with both sulfathiazole and zinc peroxide, A. B. Gwinn (*Am. J. Surg.* 65: 430, 1944) states that sulfonamide therapy, both general and local, is useful in the treatment of gas gangrene. Although it retards the progress of the gas gangrene, it does not destroy the anerobic bacilli causing it. These bacilli are best destroyed by nascent oxygen and in Gwinn's opinion zinc peroxide is the most efficient method of getting nascent oxygen where it is needed. Zinc peroxide paste inserted into the wound slowly releases its extra molecule of oxygen directly into the area of infection. This free oxygen gradually permeates the gas infection and kills the anaerobic organisms. Therefore, sulfonamide therapy combined with the use of zinc peroxide paste makes a very effective method of treating gas gangrene.

Diethylstilbestrol for Uterine Bleeding

Diethylstilbestrol is a non-hormonal drug which has been found, by clinical trial, to be highly effective in the treatment of dysfunctional uterine bleeding, says K. J. Karnaky in the *Southern Medical Journal* (37:510, 1944). It is as efficient when taken orally as by the intramuscular route. It is inexpensive. When it is imperative to halt severe bleeding rapidly the drug may be administered directly into the anterior wall of the cervix.

He has found that since using diethylstilbestrol, uterine bleeding has become a rare indication for hyterectomy. Its use obviates the need for many hospital curettements in women or girls below the carcinoma age. It is a valuable adjunct to the gynecic therapeutic armamentarium and it can be safely given in large doses for three to six months. Indeed, Karmaky feels that diethylstilbestrol is to uterine bleeding what the sulfa drugs are to infections.

Bile Salts and Constipation

In reporting on the relationship between bile salts and constipation, E. A. Smith (*Clin. Med.* 51:151, 1944) remarks that among the factors which determine the bulk of the stool, those which prevent desiccation are said to be very important. Normally, 600 to 900 cc. of bile are secreted daily and this tends to retain water in the colon. If this bile exerts an osmotic force on water, holding it in the colon, then a reduction in the amount of bile would favor dehydration of the stool. It is thought that besides holding water in the colon, bile may exert a stimulating action on intestinal activity; thus small decreases in the amount of bile can lead both to lowered colon bulk and to stasis. Since the conception of biliary constipation is based on reduced bile flow, whole bile or bile salts are indicated in treatment. Smith advises that the dose of bile salts must be adjusted to the individual. If the dose is too large, diarrhea and cramps will result, and a reduced dosage is then required. Bile salts act as choleretics; with increased flow of bile the stools become bulkier and moist.

Penicillin Pastilles in Oral Infections

A new, economical and apparently efficient method for securing the local action of penicillin in the treatment of oral infections appears to have been worked out by A. B. MacGregor and D. A. Long (*Brit. Med. J.* 2:686, 1944). The difficulty encountered in treating lesions of the mouth was the very transient action due to removal of the medicament by salivation. Penicillin was dispersed in slowly-dissolving gelatin pastilles, and the patient was instructed to insert another as soon as the previous one had disappeared. By this means the saliva could be kept fully bacteriostatic throughout the day, with a marked effect on its general flora as well as on that of the lesion under treatment.

It was found that acute ulcerative gingivostomatitis (Vincent's type) could be treated more simply and quickly by the use of penicillin pastilles than by any other method. Patients with acute hemolytic streptococcal tonsilitis, including some with scarlet fever, appeared to respond favorably to treatment with these penicillin pastilles.

In making the gelatin pastilles, care must be taken to avoid inactivation of the penicillin and methods for preventing this are described in the report. More recently, detailed instructions for making the pastilles were described by L. L. Martin in the December 2, 1944 issue of the *Pharmaceutical Journal*.

Neostigmine in Neuromuscular Dysfunction

In exploring the therapeutic possibilities of neostigmine in a variety of types of nuromuscular dysfunction, H. Kabat (*Public Health Rep.* 59:1635, 1944) applied this drug to 53 selected patients with chronic conditions of this kind. The results of his preliminary studies are encouraging because neostigmine therapy may be followed by increased range of passive motion, increased voluntary power, and relief from pain in selected chronic cases of disability following trauma, of hemiplegia and related conditions, and of rheumatoid arthritis and subacrominal bursitis.

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Penicillin in Genitourinary Infections

Five hundred cases in which a diagnosis was made of gonococcic infection of the urethra or its adnexa and 100 cases in which the patient suffered from various nonspecific infections of the genitourinary tract form the basis for a report by G. J. Thompson (*J.A.M.A.* 126:403, 1944) on the use of penicillin in these conditions. He found that penicillin is a particularly valuable drug for the treatment of gonorrhea. The most practical method of administration is the intramuscular injection of a solution containing 5,000 to 10,000 units per cubic centimeter. Doses of 20,000 units injected every three hours until 100,000 units has been given will result in cure in fully 98 per cent of the cases. Penicillin is an extremely useful drug in the treatment of various nonspecific infections of the genitourinary tract. If the infection is caused by penicillin sensitive organisms the result of treatment is excellent. In most cases, however, the infection is of mixed type and the result of therapy is not dramatic. Nevertheless it is worth while. Penicillin combined with other urinary antiseptics in these cases might well be superior to other methods of treatment.

Treatment with penicillin is so devoid of toxic reaction that there is no reason to outline difficult schedules or to use complicated methods. However, penicillin is unstable in solution and at room temperature will rapidly lose its antibacterial power. Solutions should be freshly prepared and kept in the icebox between injections.

Vitamin B_6 for Certain Blood Diseases

Agranulocytic angina is a disease characterized by an acute febrile illness, necrotic and ulcerative lesions in the mouth and pharynx and an extreme reduction of the granulocytes in the blood. In addition, leucopenia is usually present. Most often the disease occurs secondarily to the administration of certain drugs like amidopyrine, some barbiturates, dinitrophenol, the sulfonamides, and, more recently thiouracil. Accepted therapy relies on the use of blood transfusions and on pentose nucleotides, but the results are often disappointing.

On the basis of other reports, M. M. Cantor and J. W. Scott (*Science* 100: 545, 1944) tried a new approach to the treatment of leucopenia and granulocytopenia by the intravenous administration of pyridoxine hydrochloride (vitamin B_6). Tried on three cases, the vitamin was administered in doses of from 125 to 200 mg. intravenously daily. The temperature in each case fell to normal limits and symptoms disappeared within 48 hours. This was associated with a leukocyte increase and the reappearance of granulocytes in the blood. Hence it is felt that vitamin B_6 is a useful agent for the treatment of agranulocytic angina of toxic origin.

Hazards of Externally Used Sulfas

There are innumerable preparations containing sulfonamide compounds, usually sulfathiazole, advocated for external use on minor lesions of the skin and orificial mucous membranes. Such preparations generally shorten the duration of impetigo, ecthyma, chancroid and possibly other types of primary and secondary pyodermas. However, it is the opinion of E. W. Abramowitz (*Arch. Dermal. & Syph.* 50:289, 1944) that this advantage, while of some immediate value, is offset by the subsequent complications that may appear in these as well as other dermatoses (eczematous eruptions, varicose ulcers, burns and minor surgical injuries) and minor infections of the mucosal orifices. These complications are: (1) development of a local or generalized dermatitis (allergic sensitization); (2) appearance of photosensitization to sunlight and ultraviolet rays; (3) interference with the action of the roentgen rays; (4) delay in wound healing time; (5) local sanguineous oozing; (6) interference with the action of sulfonamide compounds by local anesthetics of the procaine series and the chemically related vitamin paraaminobenzoic acid; (7) resistance to sulfonamide therapy; (8) rendering the patient vulnerable to the subsequent use of the drug when most needed.

Because observations and reports indicate that reactions from the topical application of the sulfonamide drugs are more frequent than is suspected, this dermatologist feels that wider dissemination of the knowledge of reactions and their consequences is desirable, and that some restrictions should be adopted to prevent the indiscriminate use of sulfonamide ointments and other pharmaceutic forms for external use.

Trends in Burn Therapy

In discussing the general trend in the treatment of burns, A. D. Maroni (*Am. J. Surg.* 65:361, 1944) suggests that all burns affecting one-tenth or more of the body surface must be looked upon as serious and ideally should be treated in the hospital; that every burn be converted from an open, contaminated wound to a clean wound as soon as possible. He believes no one form of treatment can be considered ideal; that the treatment selected depends on size and location and depth of the burn, amount of time elapsed since its occurrence, amount of infection present or expected, and availability of material to be used. However, the author believes that the present trends seem to indicate that the methods of tanning and the use of antiseptic dye technique will soon be abandoned, and that methods which seem to have the best chance of surviving are the pressure dressing with or without the use of petrolatum-treated gauze and chemotherapy. Sulfadiazine is the drug of choice when chemotherapy is used. In addition, a high caloric diet with adequate vitamin intake is recommended.

Ethylnorsuprarenin

A new chemical, reported to be better for acute asthmatic attacks than epinephrine (adrenalin) has been described by M. L. Tainter, W. M. Cameron, L. J. Whitsell and M. M. Hartman (*J. Pharmacol. & Exper. Therap.*, through, *Science News Letter* 40:296, 1944). The new compound, called ethylnorsuprarenin, is a colorless, odorless, crystalline powder with a bitter taste chemically described as 1-(3, 4-dihydroxyphenyl)-2-amino-1-butanol. The drug may be administered subcutaneously, intramuscularly or intravenously. It takes effect in from one to five minutes; the effect lasting from twenty minutes to an hour. Fewer undesired reactions such as pain over the heart, nausea, vomiting and nervousness were observed in the same patients when this agent's effects were compared with those of epinephrine.

Penicillin vs. Anthrax

Anthrax, for which no completely satisfactory treatment has yet been developed may perhaps yield to penicillin, according to the findings of F. R. Heilman and W. E. Herrell. As reported in *Science* Supplement for December 1, 1944, in trials with mice, these workers found that slightly more than half the animals treated with penicillin could be protected against 10,000 times the lethal dose of anthrax organisms even when treatment was not started until 16 hours after the mice had been inoculated with the germs. In other trials, starting treatment within an hour and inoculating fewer, organisms, all the treated animals survived, while all the untreated ones died.

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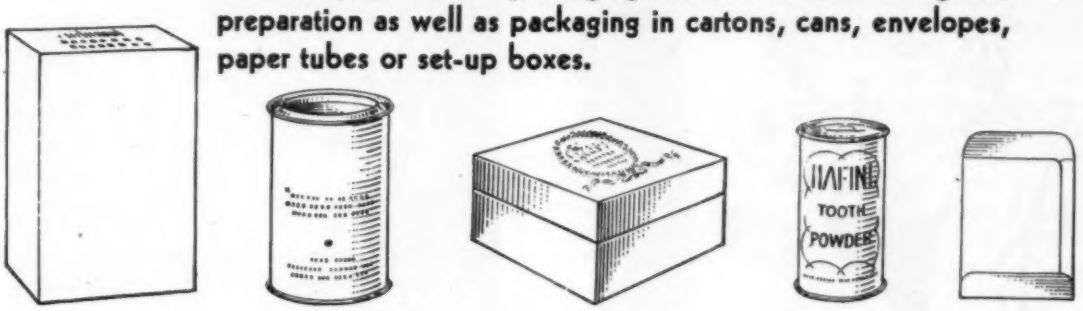

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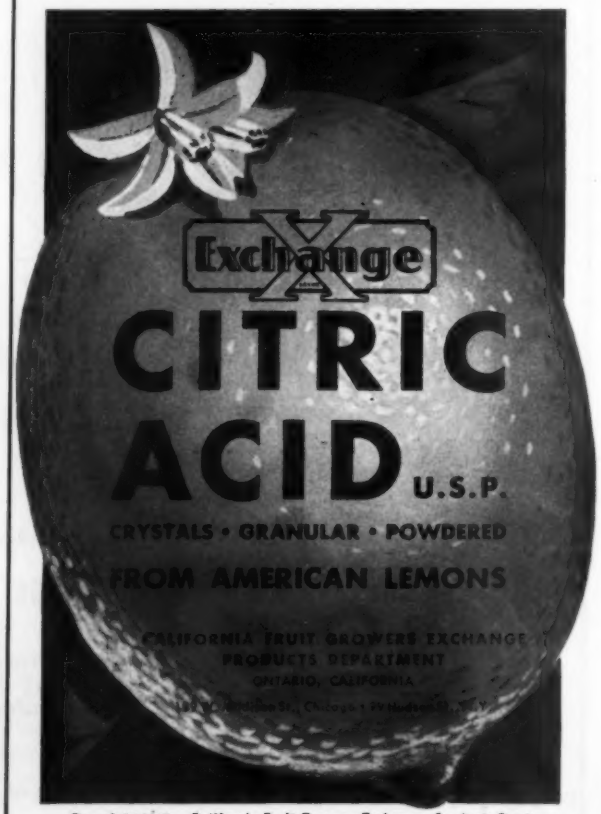

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Industry's Books

Medical Uses of Soap, A Symposium, 182 pp., Illus., J. B. Lippincott Co., Phila., $3.

This collection of articles forms a symposium on the medical uses of soap. Each of the authors has previously contributed to the medical writings in this field. Occasional duplications have been permitted in order to bring out individual points of view relating to some debatable questions, such as the effects of free alkali, the comparative values of soap and soapless detergents, and similar subjects. This series of articles answers many of the questions as to the effects of soap on the normal skin and hair, on the abnormal skin, the effects of soaps used in shaving and shampooing, and irritation produced by soap under various conditions. The continuous improvement of soaps and soap products is reflected in the new methods of manufacture described in those chapters which deal with the chemistry of soap and related problems. Contributors: G. Thomas Halberstadt, B.S.-Ch.E., Marion B. Sulzberger, M.D., Theodore Cornbleet, M.D., Lester Hollander, M.D., C. Guy Lane, M.D., Daniel J. Kooyman, Ph.D., Rudolph L. Baer, M.D., Carey McCord, M.D., Morris Fishbein, M.D., Irvin H. Blank, Ph.D.

The Art Of Resuscitation, by Paluel J. Flagg, M.D., Chairman, Committee on Asphyxia, American Medical Association, 453 pp., Illus., Reinhold Publishing Corp., New York, $5.

This work is an attempt, based upon more than twenty-five years of intimate experience with the unconscious patient, to tell the reader what to do when faced by an acutely asphyxiated patient about to die. Nothing in the entire field of medicine calls for more understanding and intelligence, for greater calmness and speed combined with a restrained, precise, but strong technique. Part I—Definition and Background. Part II—Asphyxia as a Generic Problem. Part III—The Principles of Resuscitation. Part IV—Asphyxia as a Specific Problem. Part V—The Field of Asphyxia and Resuscitation. Part VI—The Coordination of Gas Therapy. Part VII—Miscellaneous.

Fats And Oils, An Outline of Their Chemistry and Technology, by H. G. Kirschenbauer, Research Chemist, Colgate-Palmolive-Peet Co., 154 pp., Illus., Reinhold Publishing Corp., New York, $2.75.

Fats and oils derived from both plants and animals are becoming more and more diversified and specialized in their uses. In recent years many new and superior types have entered the market, and have won a permanent place for themselves in the manufacture of soaps, paints, varnishes, foods and finishes for countless products. This volume presents a simple survey of the origin, methods of extraction, chemistry, and processing of these important materials. It has been written for the purpose of offering those interested the essential facts relating to fats and oils in a direct, clear-cut manner.

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Emulsion Ointments

The experience of J. Buchi and R. Schlumpf (Pharm. Acta. Helv. *19:6, 1944*) *shows that stable emulsion ointments may be obtained by choosing a formula such that the finished product corresponds to the following requirements: maximum particle size 15μ; mean particle size less than 3μ; not more than 10 per cent of the particles greater than 7.5μ. Cholesterol is a very good emulsifying agent for the purpose, giving emulsions of a high degree of dispersion and therefore of good stability. It should be used in a proportion of 0.5 to 1 percent calculated on the anhydrous ointment. The cholesterol is dissolved in the melted base. The formula recommended is: cholesterol, 5 parts; cera alba, 5 parts; adeps lanae, 20 parts; paraffin molle alb., 25 parts; paraffin subliq., 25 parts; cetaceum, 25 parts. When dissolved substances are present in the aqueous phase, generally the degree of dispersion is less than that with pure water, and using a more dilute solution does not effect any improvement in the dispersion, but rather on the contrary.*

Melezitose: a Rare Sugar

In 1917 samples of manna, a sweetish, gummy exudate from trees, were sent to C. S. Hudson, a leading sugar chemist. According to a note in the *Journal of the New York Botanical Garden* for September 1944, Hudson found this manna to consist largely of a rare and unusual sugar called melezitose. One of the peculiarities of this sugar was the observation that it crystallizes or solidifies very rapidly and that it is not possible to make a thick syrup from it. In 1943, Hudson purchased 1,500 pounds of crystallized comb honey from a beekeeper in Virginia and from it obtained more than 200 pounds of melezitose.

At present the uses for this sugar are unknown. It represents, however, an addition to those chemical compounds produced by plants for which a use will doubtless be found some time in the future. As the result of this chain of events there is available for experimental purposes a quantity of this sugar, available nowhere else in the world.

Combined Action Aerosol

United States Patent 2,358,986, granted to E. R. McGovran and L. D. Goodhue and assigned to the Secretary of Agriculture, covers methods of preparing aerosols with combined insecticidal and germicidal properties. When released from suitable dispensers in aerosol form, the compositions described in the patent are said to be noncombustible and non-toxic; permitting their safe use in places such as hospitals, public conveyances, dwellings and dairy barns and such without the need for evacuation of the occupants.

A typical example of such a preparation is a mixture of from about 2 per cent to 18 per cent pyrethrum extract (20 per cent pyrethrins), from about 2 to 18 per cent propylene glycol, and from about 10 to 30 per cent of ethanol, dissolved in liquid dichlorodifluoromethane (total relatively nonvolatile ingredients not substantially in excess of 20 per cent). Such a mixture is readily dispersed and leaves the active ingredients in aerosol form, with very good lethal effects on both insects and bacteria in the air; reducing the number of bacteria in a treated space by from 90 to 96 per cent.

New Disinfectants

The research laboratories of Givaudan-Delawanna, Inc., manufacturers of synthetic organic chemicals and aromatic materials, have synthesized two new phenolic compounds having interesting germ-killing powers, according to a booklet just published by the company.

The booklet consists of two articles, written by A. R. Cade, of the research staff of Givaudan, which are entitled, "New Disinfectants" and "A Critique of Methods for Testing Phenol Coefficients."

The new disinfectants are described as halogenated dihydroxydiphenyl methanes, and the two most important members of the group are known under the trade names of Compound G-4 and Compound G-11. Both are colorless solids with high melting points (176° and 146° respectively,) and practically odorless. They are poorly soluble in water, readily soluble in alcohols and ketones, slightly soluble in mineral oils and hydrocarbon solvents, but soluble in many of the fatty acids and their esters.

In the critique of methods of testing phenol coefficients, Cade describes the shortcomings in the standard methods, the reasons for the variations in results, and the possibility that the random sampling error may play a role in producing these variations.

Copies are available from Givaudan.

Scalp Preparations

In discussing rational pharmaceutical applications for the relief of seborrhea and attendant alopecia, H. Goodman (*New York State Pharm.* 19: No. 10, 28, 1944) points out that, in the main, each preparation for such purposes includes the following: (1) An irritant, (2) An antiseptic, (3) An emollient, (4) A vehicle, (5) Color, (6) Perfume, and, (7) A specific (if such exists).

Stressing that the specific chemical for seborrhea and alopecia meeting all requirements of controlled scientific experimentation still awaits the future, he suggests the following preparations as worthy of attention, study, preparation and revision to meet individual needs:

Scalp Wash With Mercuric Chloride (Goodman)

Tincture pilocarpus	**2.**
Tincture capsicum	**2.**
Mercuric chloride	**0.08**
Tincture cantharides	**2.**
Castor oil	**1.**
Isopropyl alcohol, 97%, q.s.	**100.**

Monoacetate Hair Pomade (Goodman)

Resorcin monoacetate	**5**
White ceresin	**25**
Cocoanut oil	**75**

Sulfonated Oils Scalp Wash (Goodman)

Sulfonated castor oil (50%)	**10.-40**
Sulfonated olive oil (50%)	**5.-20**
Low viscosity mineral oil	**1.- 8**
Water, q.s.	**100**

Scalp Milk (Goodman)

Stearic acid	**4**
Mineral oil	**32**
Triethanolamine	**2**
Water, q.s.	**100**

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Bentonite Tooth Powder

M. A. Bezborodov (*Farmatsiya* 6: No. 4, 24, 1943, through *Chem. Abstr.* 38:5366, 1944) reports that bentonite is an effective tooth powder, free from objectionable components. He found it superior to chalk in adsorptive capacity and bactericidal power.

Depilatory Patent

To overcome the disadvantages, more particularly the unpleasant odor, of many standard depilatories, R. L. Evans, and E. G. McDonough in U. S. Patent 2,352,524 recommend the use of mercaptan compounds containing polar groups. Depilatories made with such compounds according to the patent specifications are claimed to be efficient in removing hair without injury to the epidermis. A typical formula for such a product is given as follows:

Strontium hydrate	**50.0 Gm.**
Calcium oxide	**12.0 Gm.**
Colloidal clay	**102.0 Gm.**
Methyl cellulose	**11.0 Gm.**
Mercapto-acetic acid	**12.0 cc.**
Water	**300.0 cc.**
Perfume	**0.8 cc.**

Night and Day Creams

In a concise tabulation, *S.P.C.* for December 1944 presents pertinent facts and type formulas of foundation creams, cleansing creams and night creams:

Type of Product:	*Foundation Cream*	*Cleansing Cream*	*Night Cream*
Synonyms and Creams of Closely Related Composition:	Day Cream. Vanishing Cream. Powder Cream.	Liquefying Cream. Cold Cream.	Nourishing Cream. Skinfood. Tissue Cream. Rejuvenating Cream.
Note on Composition and Manufacture:	Originated in the partially neutralized stearate cream, based on partially neutralized stearic acid. The alkalis, etc., may be caustic potash, caustic soda, soda or potash carbonate, ammonia, triethanolamine, borax, etc. Soda and borax generally give hard white creams, calling for the addition of a considerable proportion of glycerine. Potash gives a softer white cream, while the ammonia creams tend to discolor on standing. Diglycol stearate and glyceryl monostearate (tech.) give good but translucent creams. Titanium dioxide and other pigments are included in foundation and powder creams.	Water-in-oil emulsion; generally with a very low melting point and based on mineral oil of low viscosity, plus wax, emulsifying agent and water. Occasionally "washable" cleansing creams are of the o/w type. Much has been written on cold creams, which are similar to cleansing creams but contain vegetable oils and are generally fattier in texture. Liquefying cleansing creams are waterless mixtures of low melting point waxes and petroleum derivatives (e.g., paraffin wax, petroleum jelly and mineral oil).	At one time usually w/o emulsions of the cold cream or lanolin type. This latter type of base is still useful when special agents such as hormone extracts, vitamins, etc., are incorporated. Because of their rate of evaporation and washability, however, o/w emulsions have since been widely employed. As penetrating emollients and tissue lubricants, the following constituents are useful: lanolin, wool wax alcohols, cetyl alcohol, linseed fatty acids, benzoated lard. Emulsifying agents: soaps, self-emulsifying waxes of the fatty alcohol type, triethanolamine stearate.
Typical Basic Formulae:	Stearic acid.....20 lb .1 KOH solution (50%)..... 2 lb. Glycerine.....12 lb. Titanium dioxide } 2-3lb Face powder pigments } Distilled water..64 lb.2	Triethanolamine 1.5 Gm. Stearic acid..... 4.5 Gm. Mineral oil.....25.0 Gm. Perfume..... 0.5 Gm. Distilled water..61.0 Gm. Paraffin wax.... 7.5 Gm. Diglycol stearate.....10.0 Gm. Spermaceti.....12.0 Gm. Mineral oil.....35.0 Gm. Carbitol or propylene glycol... 5.0 Gm. Perfume..... 9.5 Gm. Water.....40.0 Gm.	Self-emulsifying wax15.0 Gm. Wool wax Alcohols.. 2.0 Gm. Linseed oil f.a..... 1.5 Gm. Sesame oil..... 7.0 Gm. Glycerine..... 2.5 Gm. Zinc oxide..... 1.0 Gm. Water.....71.5 Gm.

Titanium Dioxide Efficient Sunscreen

Somewhat to our surprise, we were told recently that extensive field tests have shown that titanium dioxide, sometimes used in face powder formulation, is a most efficient sunscreen. *On the basis of this observation it now becomes a problem of how to efficiently distribute titanium dioxide in a cosmetic base so as to take full advantage of its effective screening action; a water-resistant combination being preferred. Since the compound is so white, means for imparting desirable skin tints, by pigments or dyes, also will have to be worked out.*

From another source, we have learned that menthyl anthranilate is considered to be one of the best of modern sunscreen materials for use in cosmetic products. Being a liquid it is readily incorporated in suitable cosmetic combinations to provide complete protective coverage. It also has the advantage of being water-resistant; an important consideration in sun tan products.

New Type Shaving Cream Patented

It is known that aqueous solutions of saline substances induce osmosis through organic membranes and that such solutions applied to the skin will produce temporary local turgidity, and saline substances have been added to soap lyes during the process of saponification or to solutions of soap in water in order to produce creams having this property. Taking advantage of this observation, E. W. Willcocks has described a series of shaving creams which represent a distinct departure in formulation. Examples of such preparations, as given in British Patent 559,867, are as follows:

1. Exsiccated sodium sulfate	1 part by weight
Kaolin	1 part by weight
2. Exisccated sodium sulfate	10 parts by weight
Triethanolamine	1 part by volume
Castor oil	a sufficient quantity to make a paste
3. Exsiccated magnesium sulfate	1 part by weight
Precipitated chalk	2 parts by weight
Powdered gum acacia	1 part by weight
Powdered soap	10 parts by weight

A material of the general composition described, when applied to the moistened skin, or applied to the skin and moistened, forms a cream, which by reason of the osmotic action of the saline substance, produces a temporary local turgidity of the underlying tissues resulting in a temporary tension and anaesthesia of the skin, which facilitate shaving.

Emulsions with Pectin

The value of pectin as an emulsifying agent is stressed in the report of a South American investigator. According to A. M. Fuenmayor (Gas. farm *3:No. 22, 8, 1943, through* Chem. Abstr. *38:6054, 1944, one gram of pectin can be substituted for 12.5 grams of gum arabic in the preparation of emulsions and the resulting emulsions can be diluted with either oil or water. However, each oil requires its own formula and the primary emulsion cannot contain more than 50 per cent oil. For a stable emulsion, the pectin must be given at least ten minutes time to swell.*

To make a mineral oil emulsion, one gram of pectin is triturated with 25 cc. of mineral oil, then 25 cc. of water is added and trituration continued until emulsification starts. Then the mixture is allowed to stand for ten minutes or more and rubbed in a mortar until a thick creamy emulsion forms. After this 25 cc. of mineral oil are added slowly, followed by 10 cc. of fruit syrup, then by 9 cc. of water and 0.004 Gm. vanilla in 6 cc. of ethyl alcohol. For a cod liver oil emulsion, the alcohol and vanilla are omitted and 0.4 cc. of methyl salicylate and a total of 40 cc. of water are used; following the same procedure.

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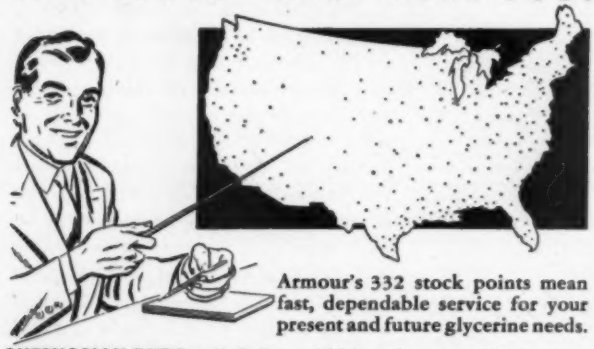

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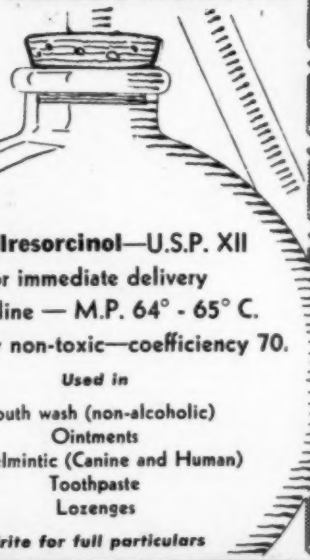

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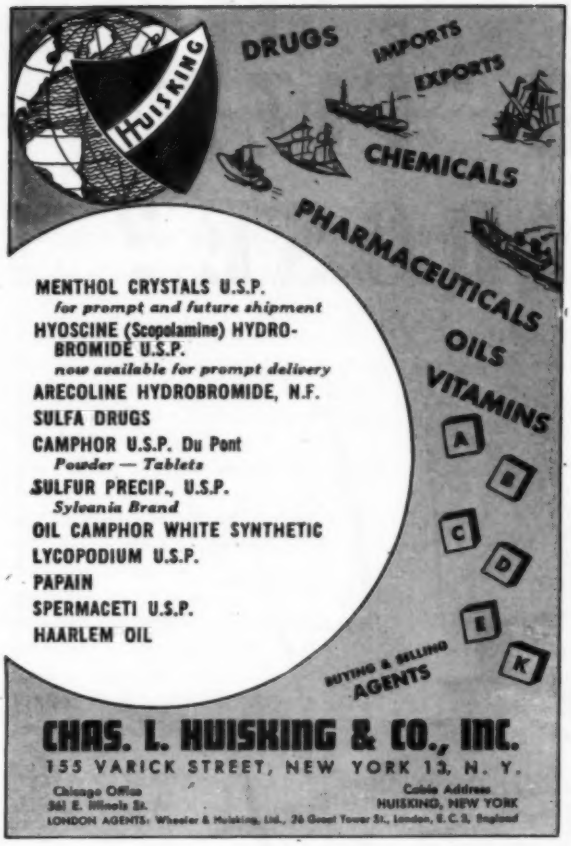

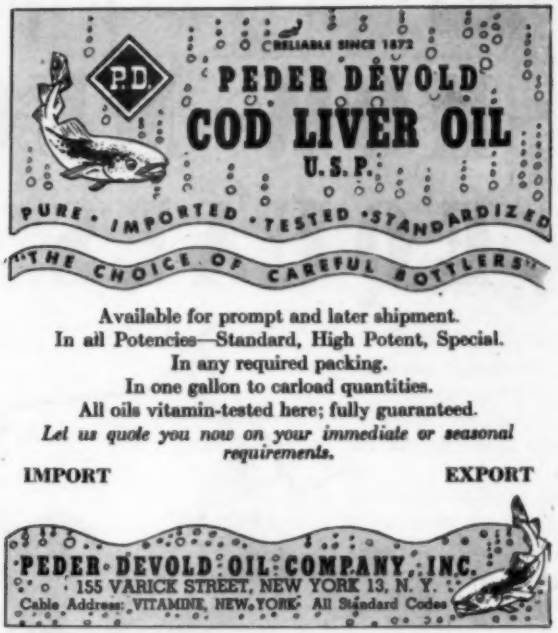
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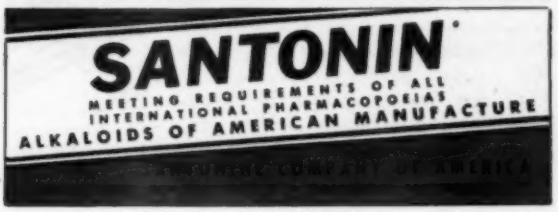

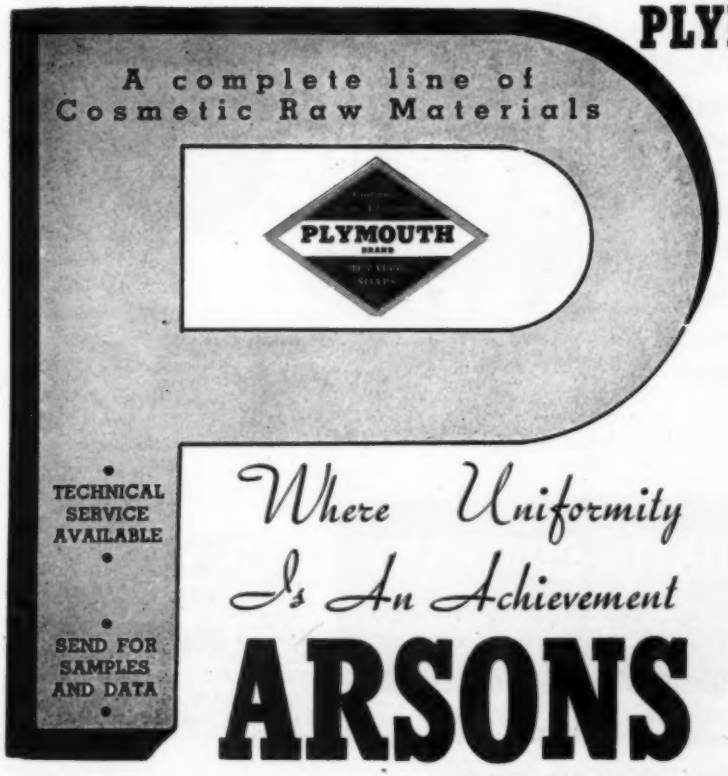

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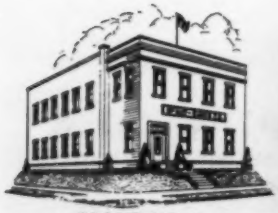

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PURCHASING DEPARTMENT

French Floral Oils Will Be Scarce This Year; Shipments Exceeding 10 to 20% of Our Needs Unlikely

French firms, which are branches of Grasse interests, the principal brokers handling essential oils and the largest producers of French perfumes, with subsidiary manufacturing enterprises in the United States, report that only from 10 to 20 per cent of the floral oils normally required by the United States will be available, according to preliminary advice received by the Department of Commerce, from its representative in France. These firms indicate that if alcohol, retail bottles, and foreign essential oils were freely available, the French perfume industry would probably consume all of the Grasse production.

Some well-informed French industry sources state that a maximum of only 50 per cent of United States requirements of lavender and lavandine will be available, while other authorities are of the opinion that these two oils can be exported from France up to 100 per cent of United States needs. Additional essential oils indigenous to France may be available up to a maximum of 50 per cent of our requirements, but the percentage will vary greatly on individual oils. The jasmine and rose crops have not yet been fully collected.

The French perfume manufacturers also face shortages because the season has been one of crop and production deficits, as a result of diversion of female labor from flower gathering to better-paid positions, and of the lack of coal, solvents, and fertilizers. Only a 50 per cent harvest of flowers was obtained from a full planting, and the price doubled; furthermore, the cost of flowers obtained from peasants was high, as no price limits were imposed by the Government.

Because all conflicting statements in the preliminary information appear valid, a check is being made in Grasse and lavender-producing regions for clarification.

None of the factories in Grasse reportedly were structually damaged by the war. Coal, solvents, labor, flowers, and transportation facilities, however, are greatly needed.

Oils From India

Today many valuable oils are being exported from India, although the perfume and essential oil production has been overshadowed somewhat by the development of modern techniques for obtaining the oils, especially in the United States and Europe, as well as by the manufacture of synthetic perfumes. Sandalwood, lemongrass, palmarosa, and cardamon are the principal oils shipped from India.

Annual production of sandalwood oil in the State of Mysore has been estimated at approximately 200,000 pounds. A considerable percentage of the entire Indian production is exported. In the fiscal year 1937-38, 119,634 pounds of the oil were shipped abroad and in 1938-39, 87,290 pounds. In the calendar year 1940 the United States imported 3,700 pounds of sandalwood oil from India, the amount purchased in 1941 rising abruptly to 36,020 pounds. No shipments to the United States were reported in 1943-44.

Southern India is also the principal source of lemongrass oil. Production of the grass centers around the Malabar district and Travancore, where Cochin is the port of shipment.

Normal production of lemongrass oil in the Travancore has averaged about 400 long tons annually. In 1941, 245 long tons of lemongrass oil were imported into the United States from India, an increase over the amount purchased in 1940. Though wartime shipping difficulties now have forced the United States to turn to closer regions for part of its supply, India is maintaining its position as the principal world source of lemongrass oil.

The cultivation of cardamoms is carried on largely in small holdings on "patch" farms. In southern India many producers raise cardamoms together with coffee trees or on tea and rubber plantations. In 1940 more than 21,000 acres in Mysore were reported to have been devoted to the production of cardamoms. In 1941, 265,244 pounds of the seeds were imported into the United States from British India, a considerable increase over the 196,302 pounds entering the country during 1940.

(Continued on page 245)

JANUARY PRICE CHANGES

UP

- Almond Oil, bitter $1.75
- Arabic gum sorts ½c
- Bay oil 5c
- Bergamot oil $1.75
- Bois de rose Braz. $1
- Cajuput oil 60c
- Cananga oil Native 50c
  - Rectified $1.75
- Chamomile flowers Hung. 2c
- Coriander oil $2
- Cumin oil $1
- Goldenseal root 20c
- Grapefruit oil 5c
- Lemongrass oil 25c
- Menthol natural 25c
- Mercury bichloride 24c
  - calomel 28c
  - metal $30
  - red precip. 30c
  - white precip 26c
- Scammony root 2½c

DOWN

- Ammonium bromide 3c
- Celery oil $2
- Geranium oil Bourbon $1
- Juniper berry oil $2
- Methyl benzoate 15c
- Petit grain oil SA 15c
- Pine needle oil 15c
- Potassium bromide 2c
- Rosemary oil 5c
- Sassafras oil 10c
  - Artificial 5c
- Sodium benzoate 2c
- Terpineol 10c

• Prices quoted in this section were current on the first of this month.

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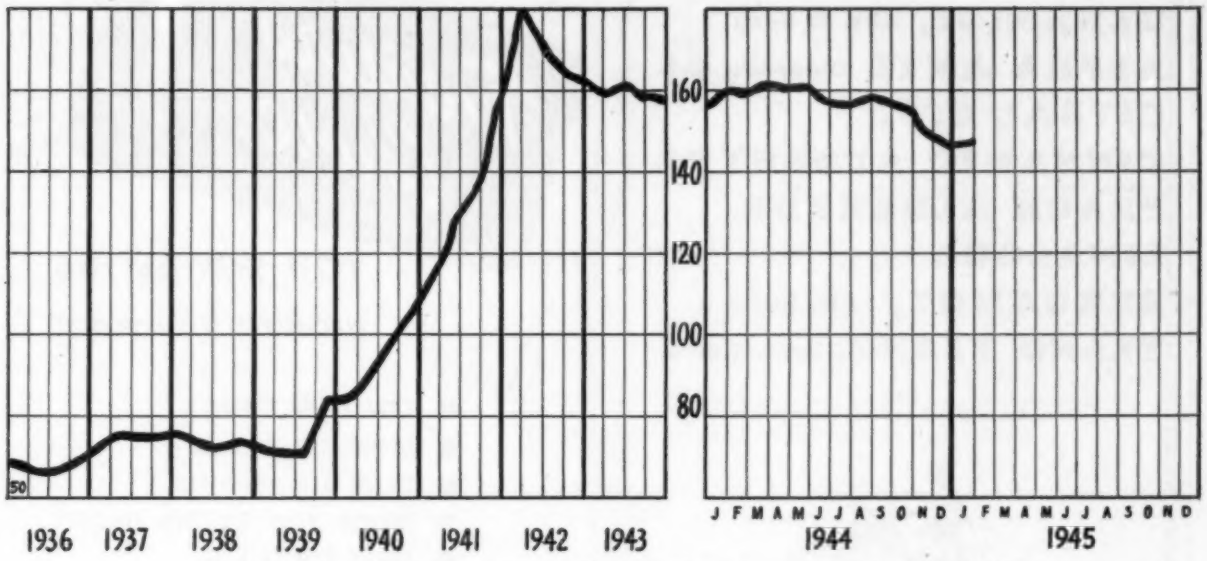
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for January, 1945, advanced from 145.0 to 146.1.

Crude Drug Supply Problem Still Acute; Some Relief From Abroad Expected Later This Year

The problem of crude drug supplies is expected to carry through 1945. Domestic collection was accomplished in 1944 through an unprecedented appeal by collectors' field agents and the added stimulus of high monetary returns. Even so, only a moderate degree of success was attained, and the limited quantities of some items will be rapidly exhausted. All this points to a limitation in supplying 1945 demands until replacements can be had from the 1945 crops at home and abroad. Stock holdings, in many instances, had been reduced to uncomfortable lows, and in numerous items total depletions were experienced in 1944.

The liberation of Italy and France and the forthcoming severance of Nazi control in other Central European nations point to at least a partial resumption of botanical drug exports in 1945. Much will depend on whether the crops will have been consumed or exported by the enemy prior to evacuation.

The shipping problem must be reckoned with in any realistic evacuation of crude drug prospects for 1945, but it is conceivable that the availability of space for return cargo from the Mediterranean and Indian Ocean areas may be freer.

Nicaraguan Exports

Nicaraguan exports of ipecac root during September, 1944, amounted to 3,981 kilograms, valued at $22,868. Exports of balsam of Peru in the same month totaled 3,833 kilograms, valued at $13,355.

Vanilla On Way Here

There is another cargo of Bourbon vanilla beans believed to be afloat. Reports indicate that the shipment amounts to about 85 tons, and a third lot amounting to only about 30 tons is expected to be shipped within a relatively short time. After these goods arrive, however, it is not likely further shipments will be possible. The government in Madagascar, it is said, is planning to reserve all future beans for France. Disregarding ceilings at which importers are permitted to sell Mexican vanilla beans in this market, curers in Mexico paid exceedingly high prices for new crop green beans. Under the circumstances local houses will be unable to place orders for Mexican beans, it is explained.

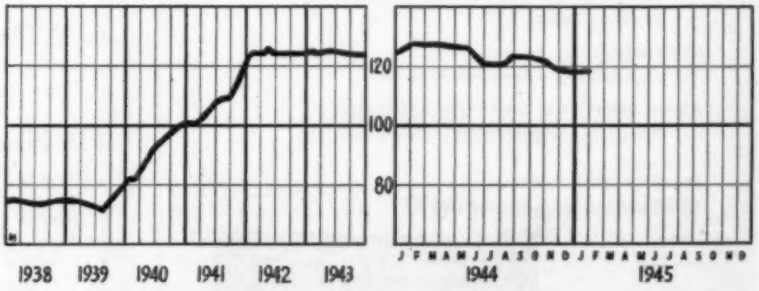
Gum Arabic Firm

While fluctuations in gum arabic are confined within narrow limits the general trend continues upward despite the fact that a fairly large quantity is believed to be nearby from the Sudan. Latest sales have been reported at from 12c to 12½c per pound, and it is understood that well over 100 tons have been purchased for domestic consumption over a relatively short period.

Goldenseal Higher

Spot prices on goldenseal root have reached a level ranging from $7.70 to $7.80 per pound. The article bears close watching on reports of a continued good inquiry in the market.

15 Medicinal Chemicals—Weighted Price Index. 1926=100.



The medicinal chemicals index advanced from 122.9 to 123.5 Menthol was up 25 cents, mercury rose to $165. Potassium bromide dropped 2 cents to 25 cents.

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ESSENTIAL OILS

(*Continued from page 241*)

In 1940 India supplied the United States with 1,680 gallons of palmarosa oil, about 120 gallons less than in 1939.

Oils From Ceylon

In 1941 approximately 33,000 acres of citronella grass were reported under cultivation in Ceylon. One acre should produce annually at least 40 pounds of commerically satisfactory citronella oil.

Estimates of Ceylon's production of citronella oil in 1943 averaged about 1,100,000 pounds. The quantity of oil shipped to the United States has declined in recent years, amounting to only 171,619 pounds in 1941, a considerable reduction from 388,218 pounds in 1940.

In 1941 the land devoted to cultivation in cinnamon trees, amounted to about 26,000 acres. In 1941 the United States purchased 68,811 pounds of cinnamon leaf oil and 321 pounds of other types of cinnamon oils from Ceylon. During the same year 3,257,858 pounds of cinnamon itself were imported from Ceylon by the United States.

Cardamoms are cultivated in Ceylon as well as in India. According to recent data, 6,000 acres are planted in these herbs. During the last few years production has decreased because investments have been directed to the more profitable rubber and copra industries. The United States bought 109,005 pounds of cardamom seeds from Ceylon in 1941, a large increase over the amount purchased in 1940.

Ceylon is among the leading world suppliers of lemongrass oil, and in 1941 the United States imported 17,920 pounds of the oil from that country.

Oils From Near East

As a source of rose oil Turkey is second to Bulgaria. In Isparta and Bourdour there were 1,100 rose plantation proprietors in 1937. About 25 acres of rose plants are reported to yield approximately 4,400 pounds of petals.

Rose oil production in Turkey was estimated at 120 kilograms or 265 pounds in 1939, a considerable reduction from the 1938 yield. In 1941, only 816 ounces of the oil were shipped to the United States from Turkey.

Both Palestine and Syria produce origanum oil. The United States has imported a considerable amount of this oil from Asia Minor. In 1939, 7,317 pounds were received from Palestine and 10,052 pounds from Syria, and 2 years later, 14,703 pounds were imported from Syria.

The climate of Palestine is peculiarly adapted to raising citrus fruits, some of which are processed for their essential oils, but in 1943 only 52,800 acres were devoted to orange groves. The industry has been hindered in the last few years by lack of fertilizers and irrigation and by high labor costs. Government loans have been resorted to as one means of assisting the growers. During the 1942-43 season, 53,000 pounds of sweet orange oil were produced, and at that time Palestine's chief customers were the United Kingdom, Egypt, India, Australia, and Iraq.

Brazil's Lemon Oil Supply

Output of lemon oil in Sao Paulo, Brazil, during 1944 is estimated at 10 tons, says the foreign press. Carry-over from previous years is reported to be 10 tons, making a total of 20 tons available.

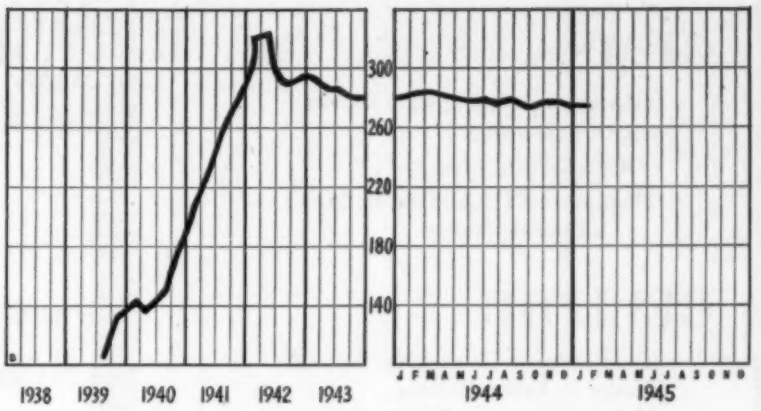
Bergamot Oil Higher

Oil bergamot is sharply higher with some houses having advanced the price to $8.25 per pound for the extra quality. Stocks in dealers hands are badly depleted and as far as can be learned there does not appear to be any indications of immediate replacements from Italy.

Miscellaneous

Demand for cananga oil is light but only small stocks are held in this market and as a rule sellers do not appear very anxious to dispose of them. Quotations for native oil went to $12.50 with rectified oil advancing to $15. Cumin oil was also sharply higher on spot at $9 a pound. The continued upward movement in lemongrass is attributed to higher shipping prices from the primary center. On spot this oil was offered at $1.75 a pound minimum. Aromatic chemicals are featured by a generally strong tone and many articles are rapidly being added to the scarce list. Eugenol is extremely firm in keeping with conditions prevailing in the raw material. Demand for eucalyptol is becoming more difficult to supply and the extremely tight position in benzaldehyde has caused some houses to completely withdraw quotations on cinnamic alcohol. Present prices on linaloe have become largely nominal. Offerings are extremely limited, with some houses having withdrawn from the market explaining that the shortage of bois de rose has resulted in a demand for more linaloe than is immediately available in this market. Bois de rose advanced sharply to a range of from $5.50 to $5.75 a pound. Additional quantities of pine needle oil have been purchased from Russia. It is not known when these goods will arrive. Spot stocks meanwhile are reported at such a low point that it has become necessary for some houses to limit offerings to regular customers based on previous sales requirements.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index remained without change at 275.3.

FINE CHEMICALS

Despite the opening of a new source of supply since the war, menthol, which is widely used here, continues to be highly speculative.

Prior to the outbreak of the war when the Far East was the main source of supply, average prices ranged between $4 and $5 a pound. Last year large buyers paid over $33 per kilo for menthol produced in Brazil. According to

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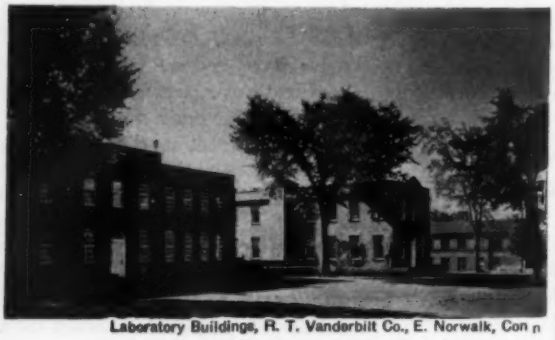

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estimates over 200 tons were produced, and in the light of the high prices paid and the urgent demands from American manufacturers it is now estimated this year's production while late because of adverse weather conditions during the mint growing season, will be more than double that of last year.

In regard to Brazilian production of mint the Department of Commerce states that growers in Sao Paulo and other sections of Brazil are reported to be planning to increase the area planted. Encouraged principally by high prices received in 1944 for mint oil, growers who had between 2 and 4 acres in mint in that year are now planting from 30 to 50 acres. Producers also have learned from last year's experience how to dry the stalks and extract the oil.

There probably will be only two cuttings of mint this year, one in January and one in April. Present stocks of mint crystals are estimated at between 20 and 40 metric tons.

Maintaining that present menthol stocks actually cost over $13 to import, major importers and dealers in this market say they have decided not to sell spot material at below $13.25 per pound and that shortly they plan to advance minimum prices to $13.50 per pound. Some factors in the spot market feel menthol should continue to advance until it reaches the ceiling of $16.25 per pound for bulk quantities. They also explain that since menthol is a relatively new industry in Brazil, the Brazilian Government will not allow prices to fall.

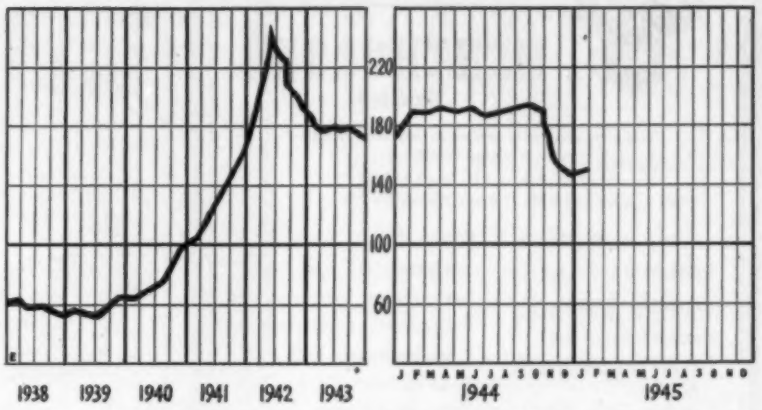
American consumers do not agree. Many have been resisting what they consider abnormally high prices and with indications of a much greater production in Brazil this year they feel that lower prices will be seen.

Mercury Up

Mercury continues to head the list in the way of price developments with quotations slowly but steadily working toward the ceiling of $199 per flask, New York. The current spot market price here is $165 a flask, this level having been reached in the face of a tremendous supply and a relatively slow demand. Estimates place the supply of metal at over 100,000 flasks. While there has been some buying, the upward trend has been based on the limited quantities held in the hands of regular suppliers while the record stockpile is held here.

With the upward trend in metal it was to be expected that manufacturers of mercurials should revise price schedules. Calomel is now quoted at $2.44 per pound; corrosive sublimate $1.92; red precipitate $2.77; mercury oxide yellow $2.94; mercury oxide yellow, technical $2.45; white precipitate $2.50.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oils index advanced from 147.1 to 149.2. Bergamot rose sharply to $8.00, Bois de rose jumped to $5.50, cananga was higher at $12.50.

Glycerin Ample

There is no shortage of glycerin but stocks are not heavy enough to cause any great concern in the market. Refiners are reported taking crude as fast as it becomes available and the over-all picture is regarded as most satisfactory. Warehouse stocks on hand November 30th were 88,978,000 pounds as compared with stocks on hand October 31 of 89,710,000 pounds.

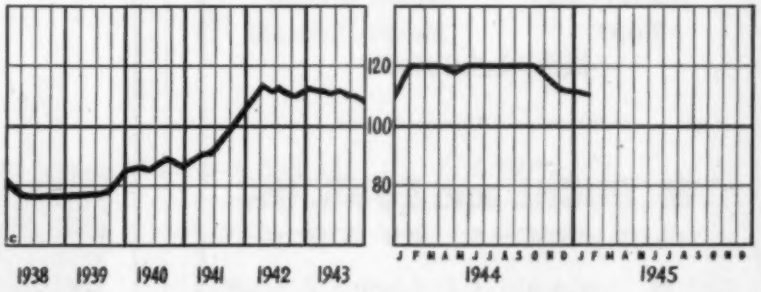
Bromides Cut

Three major bromides, namely potassium, sodium, and ammonium have been reduced 2c to 3c a pound, the first change to take place in the market for several years. The reduction establishes the new price on potassium bromide in 400 pound barrels at 25c per pound; Sodium bromide 500 pound barrels 25c per pound; ammonium bromide NF VII 450 pound barrels 28c per pound. Trade factors explain that while the supply of bromides far exceeds the demand, it is rather surprising to see prices soften in the face of a labor shortage and higher costs.

Miscellaneous

A reduction in butyl alcohol and butyl acetate prices in keeping with more favorable raw material costs does not reflect any material easing in the supply position of these solvents. Both items are under allocation and are extremely difficult to obtain for non-essential uses. Lanoline, citric acid, formaldehyde and a number of other articles continue in an extremely tight position. There are reports of a general tightening in salicylates. In the past year, phenomenal mushrooming of penicillin plants made headlines. The peak of production should be reached in 1945 and satisfy total military, civilian, and export needs.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index declined fractionally from 115.7 to 115.0. Arabic was offered at 28 cents, menthol at $13.25.

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Vitamins and Nutrition

(Continued from page 167)

burn), obscure neurologic entities, insomnia, fatigue, dermatologic disturbances and just general deterioration. Many of these unfortunates wander from doctor to doctor without appreciable aid or even sympathy. And so consequently they are forced to self medication. No remedy or preventive has received the tremendous publicity or has been marketed so melodramatically as have the vitamins. It follows therefore, that these people, who have been unable to obtain relief through professional services will turn to the newest panacea—vitamins. In many cases, if the subject is lucky enough to purchase the correct group of nutritional accessories—correct qualitatively and quantitatively—a cure or mitigation is affected. This miracle is amplified a thousand fold and so broadcast from the housetops. Obviously such a chain of events will and has subjected the physician to an economic loss and his prestige has suffered. The power of mouth-to-mouth advertising may be gathered from the fact that 87½% of the total vitamin business is attributable to a few lightly advertised products, physicians prescriptions, and *word of mouth publicity*. The motives behind medical attacks should now be in focus. Perhaps it would not be amiss also to credit Medicine with an unselfish motive for their enmity. Those products which have been making the wildest claims and which have been obnoxiously aggressive in their promotion, have, generally speaking, been so weakly and irrationally formulated, as to preclude any possibility of therapeutic claims being fulfilled. This type of business is dishonest and cruel—cruel inasmuch as hope is offered to the ill, and frequently poor, without any foundation for such offering. The entire industry is injured by this sort of thing and the physician is first to perceive its fraudulent character. That he is alienated thereby goes without saying. There is still another angle accountable for the doctor's attitude—jealousy. Science, which includes the physician, the chemist, the pharmacologist and others has fashioned a new and mighty weapon to be used in the fight against disease. But this tool cannot be controlled by or restricted exclusively for Medicine. So we have the paradox of on one hand the practitioner deriding nutritional therapy and on the other hand being forced by his own conscience to make use of same.

Doubts about the future are also stimulated by the mystery of why the seven leading advertised brands account for only 12½% of the total volume of sales—whereas one professional or ethical brand alone constitutes 24% of total sales. The explanation is simple. The proprietary manufacturers offer and stress small unit sizes, even as low as 25 cents. The ethical brand mentioned above retails for $2.96 per hundred capsules. It is readily appreciated that volume in the latter product is more easily achieved than it would be in an item selling for 25 or 50 cents. Then there is the matter of formulation and direction. Some of the consumer

advertised brands are glaringly impotent and irrationally formulated. The groundless directions further weaken what little such products have to offer. These factors, concertedly, prevent any possibility of therapeutic effect. The customer, having failed to obtain any return for his investment, no matter how small it may be, will not repeat his error. The professional products are usually from 100 to 500 percent more potent and more intelligently constructed qualitatively. The purchaser herein will in many or most instances be conscious of an improvement and a repeat sale will ensue—a sale of from three to seven dollars average.

Still another factor responsible for the failure of the proprietary brands to attain expected volume is the retail pharmacist. It is amazing but his role in the final link of distribution has been completely overlooked. Obviously, the druggist will sell those products which yield him the most profit and inversely will strangle those which afford the least, especially certain highly advertised brands which do not permit enough mark-up even to cover overhead. Generally the professional brands, either because of generosity on the part of the manufacturer, or because the unit sale is larger, offer the druggist a greater return for effort expended. Many pharmacists buy established ethical brands in lots of fifty thousand or more. In such quantities, the prices are so favorable that it is worth while to repack in 100s and sell under his own shop label. With a really profitable sale in view, the pharmacist is encouraged to apply considerable pressure in switching sales—and no one can blame him. It is remarkable that the manufacturer has completely ignored retail pharmacy inasmuch as it can facilitate or throttle the flow of drug merchandise.

We have thus far presented a number of causes and effects, to which are referable the uneasiness felt in certain circles relative to the destiny of the vitamin business. Actually they will not materially retard the future. However there are other contributory factors which may hinder the extension of nutritional therapy with the rapidity fundamentally warranted. It is too bad that many, probably the majority of physicians are completely unfamiliar with even the rudiments of nutritional therapy. Perhaps we should not condemn too strongly. So new is this entirely altered concept of disease, that few if any medical curricula include anything but a minimum of information. Only those clinicians who have been sufficiently interested to follow and digest the current literature, enjoy a working knowledge of this newer science. The writer has reviewed hundreds of prescriptions for nutritional accessories. The incompetency evidenced thereby has been almost amusing—if it weren't tragic for the patient. For example, it has been already stated that the therapeutic dose of vitamins is from ten to twenty times the minimum daily requirements—or even higher. The National Research Council recommends 5000 units of A, 1.8 mgm. of thiamin, 2.7 mgm. of riboflavin and 75 mgm. of C as being sufficient for average daily requirements. Many doctors, being familiar

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only with this formula, instruct thousands of patients to take one such dose daily. It is superfluous to add that 5000 units of vitamin A will never cure an A deficiency, nor will 1.8 mgm. of thiamin correct a B1 deficiency, etc. Obviously, such treatment will be unsuccessful. The physician and patient are both disappointed. In their newly formed opinion, vitamins are worthless and what's more they do not hesitate to express their belief. Another futile exhibition is the ingestion of one vitamin when a plural deficiency exists—as it invariably does. All cases of avitaminosis must be treated as multiple deficiencies.

Proprietary manufacturers, and to a lesser degree the ethical manufacturers, are guilty of abject incomprehension in respect to who takes vitamins and why. The writer wishes to state authoritatively—authority acquired by many years of study of vitamin sales at retail drug counters in various economic levels—that, *people who are well do not buy vitamins.* Observations and direct questioning reveal but rare exceptions. The majority of proprietary and many professional brands are formulated according to N.R.C. or F.D.A. recommendations—which are minimum, not optimum, daily requirements. Even though monotonous, the liberty is taken of again affirming that the therapeutic dose is 10 to 20 times the M.D.R. If it is so, and it must be accepted, that vitamin customers are customers only because they are trying to correct a frank or low grade pathology, it follows that no substantial mitigation of symptoms is possible from M.D.R. doses daily. Thus becomes apparent the reason for so many disappointments with the advertised brands since they emphatically claim one dose daily is sufficient.

Predictions for the future can and should be based on the nutritional and physical status of the population as a whole. The prevalence of malnutrition can be estimated by three different methods. Food consumption assessments do not mean too much. A good diet today is not significant of what it was several years ago. Deficiencies are accumulative. A mildly sub-minimum dietary, can in a few years eventuate into a first class deficiency. Furthermore an optimum intake today will not write off years of sub-standard nutrition. Hospital and death rates are practically worthless inasmuch as deficiency states of mortal severity are practically unknown in this country. And then it must be remembered that hospital patients, are hospital patients because of a serious pathology which completely obscures the less florid signs of nutritional failure. Medical appraisement, i.e. the determination of anatomic, functional and bio-chemical signs of deficiency among the general populace would be informative, if sufficiently wide spread. Mass evaluations of this type present insuperable obstacles at this time.

A substitute that is equally enlightening is the analysis of America's drug bill for *self-medication.* This term, self-medication, implies that the disorder is not severe enough to force the patient to seek medical aid and that the remedy employed is other than professionally suggested. We list below the amounts

spent in 1943 for various self administered drugs: Cathartics and Laxatives $90,000,000, Cough and Cold Remedies $86,000,000, Headache Relievers $72,937,000, Tonics $51,060,000, Stomach Sweeteners $31,000,000, Health Foods $20,400,000.

The figure, given for laxatives, translated into individual doses, assumes atronomical proportions. There must be something radically wrong for such wholesale failure of such a vital function. Lack of exercise, worry, irregular eating, and pre-occupation are collectively or individually credited with being responsible for intestinal stasis. Possibly they are of some importance but the writer feels their role is minor. Rehfuss, W. E., Med. Clin. North Am. 23:1665 Nov., 1939, asserts, "the first determining cause of functional constipation is the diet".

Seventy-two million dollars worth of headache remedies represents an utterly inconceivable number of headaches. This common malady is extremely complex in origin and is in itself merely a signal of disturbance somewhere in the body. Constipation is a frequent culprit. Nervousness is probably involved and many other potentialities too numerous to mention here.

Expenditures for cough and cold remedies is also formidable. The role of comprehensive nutrition herein needs no elaboration.

Tonics account for a huge sum of money. These nostrum, vestiges of a by-gone age, are consumed by the gullible public in an effort to ameliorate, fatigue, neurasthenia, insomnia, etc.—vague ailments which countless laboratory and clinical references indicate an etiology of vitamin or mineral deficiency.

Probably the most conclusive piece of evidence incriminating America's dietary, is the millions and millions of doses of antacids consumed yearly. Thirty-one million dollars worth of antacids, which are very cheap, is probably indicative of billions of individual doses. Outside of a few cases of hyperacidity produced by extrinsic causes, such as tension and possibly a few others, no one would dare contest the role of nutritional sins of omission and commission as a major factor in so called "heartburn." The chronic use of antacids entails another price other than financial. Freeman & Ivy, (Am. J1. Physiology, 137:706, Nov. 1942), point out that antacids seriously interfere with iron retention. Just how many cases of frank or borderline anemia stomach-sweeteners have assisted to produce is difficult to say. We do know, however, that nutritional anemia is extremely common.

Health foods also have not been neglected by the public, according to the figures given. We repeat again, people in normal health, will not be annoyed buying or taking special health foods—except perhaps a small minority of food faddists.

America's dental bill is simply beyond calculation. Can anyone dare say that dental deterioration is normal. There is no longer any doubt that dental caries is among the first repercussions of nutritional errors and deficiencies. It is now almost universally accepted that inadequate amounts of vitamins A, C, D, B com-

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plex, calcium and phosphorous will most surely be evidenced in the form of dental decay. Excess carbohydrates also play a significant part.

This brief exposé and comment on expenditures for self-medication is meant to spot-light two points; first, that many millions of sub-clinical patients who never consult a physician, do exist, and secondly, that these low-grade or even florid disorders are in the main spawned by inadequate or destructive nutrition, which can be alleviated by proper supplementation.

If there is any period in a woman's life when she should be in peak condition, it is during pregnancy. A weak or imperfect matrix cannot possibly produce a perfect casting. Studies of supplemented pregnancies as compared with controls yield startling information. An investigation by Tompkins, (J1. Int. Coll. Surg. 4:147 1941), is summarized below:

	Control Group, 1500 Cases	Supplemented Group 1500
Mild Toxemia	16%	4%
Hypertension	14%	4%
Edema	58%	12%
Preeclampsia	7%	0.0%
Maternal Mortality	0.0%	0.0%
Infant Mortality	5%	0.4%
Prematures	4%	0.0%

These comparisons speak eloquently for themselves. Ebbs, Scott, Tisdall, Moyle, Bell, (J1. C.M.A. 46:1 1942), emphasize the need for careful dietary supervision during pregnancy. The records of 400 obstetrical cases again prove the role of diet. In the supplemented group, 84% were free of any complications during labor whereas only 58% were likewise in the poor diet group, and 68% in the good diet group. Miscarriages, premature births, stillbirths, labor periods and uterine inertia were all substantially reduced by optimum nutrition.

Geriatrics is a new specialty which promises to appreciate nutrition. Age advances several unique problems. Reduced physical activity is reflected in lowered caloric requirements, which in turn means a reduction in total food intake. Naturally, this will result in a diminished vitamin and mineral availability. Necessary levels of these elements is as great during age as at any other period and if they cannot be gotten through foodstuffs, they should be artificially supplied. Age also seems to be accompanied by impaired dentition and gastro-intestinal function, which still further depress food consumption. It is almost a certainty that many of the so-called diseases of old age—brittle bones, psycho-neurosis, cardio-vascular degeneration, are the summation of many years of nutritional failure.

Convalescence presents a fertile field. Healing processes are greatly accelerated by ascorbic acid and other factors. A minimum of physical activity or other interferences frequently make it almost impossible to get enough vital accessories from a restricted dietary. Perhaps the following is sacrilegious but the examination of many stock hospital menus exposes the jolting fact that these diets in themselves will in several weeks induce a deficiency.

Dentistry offers another rich opportunity. The dentist has made little or no use of nutritional biochemicals. It is deplorable that the majority of these men are unaware that much of the oral pathology with which they are in daily contact, is conditioned by ascorbic acid deficiency. Gingivitis, Vincent's disease, bleeding gums are symptoms of or conditioned by inadequate levels of vitamin C. From early youth the dentist should force his patients to obtain an optimum intake of vitamins A, D, C, B complex and calcium—factors known to be absolutely indispensable in the development and maintenance of dental structure.

Diabetes and obesity are two diseases which entail special problems in nutrition. Prohibition of all but a bare minimum of calories imposes severe difficulties in obtaining significant amounts of vitamins and minerals. These diets most certainly should be fortified.

Heavy industry, especially during the warm months, poses a new problem and opportunity. Profuse sweating, which goes hand in hand with shipbuilding, steel manufacture and many other heavy industrial operations, permits serious losses of vitamins C, B1, B2, nicotinic acid and pantothenic acid. According to Holmes, H. N.: Science: 96:2495, Oct. 23, 1942; Cornbleet, T., Kirch, E. R., and Bergheim, O., J.A.M.A. 122:426, June 12, 1943, excess perspiration may so seriously deplete the tissue of ascorbic acid as to produce scurvy. As much as 5 to 15 percent of daily thiamin intake may be lost through this excretory channel. (Hardt,L.I., and Still,E.U. Proc. Soc. Expl., Biol. & Med., 48:704, Dec. 1941). Cornbleet and associates report, "on the basis of 500cc of sweet daily, a loss of 10% of thiamin and 5% riboflavin and appreciable amounts of other factors may occur". Hard labor on a hot day can produce as high as 2500cc of perspiration daily. The dangerous relationship here is quite clear. DuPont made use of this information by the administration of vitamin C to workers under the most difficult heat conditions. Tolerance and efficiency of the supplemented group was incomparably superior to the control group, (Foulger,J.H., Science Supplement 45:12, June 19, 1942).

The insatiable demands of war immensely increase the load upon industry. The maintenance and expansion of our war production is an absolute must. To tolerate known conditions inimical to industrial efficiency, such as excess sweat, is unthinkable. Supplementation of all personnel working under adverse heat conditions should be instituted immediately.

Evidence has been offered exposing extremely widespread sub-clinical maladies traceable to malnutrition. Education, lay and professional, relative to the efficient employment of nutritional biochemicals will insure more universal and consistent therapeutic response. Education, lay and professional, delineating the relationship between diet and disease will further stimulate the use of vitamin and mineral supplements. New fields for optimum nutrition are appearing. These factors, upon addition, strongly forecast an increased demand for nutritional accessories.

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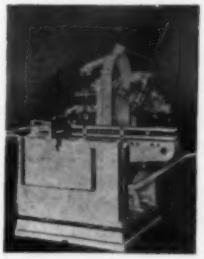

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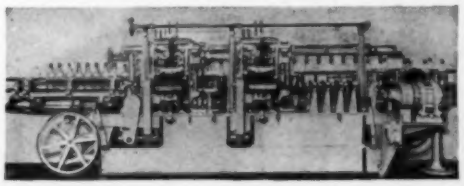

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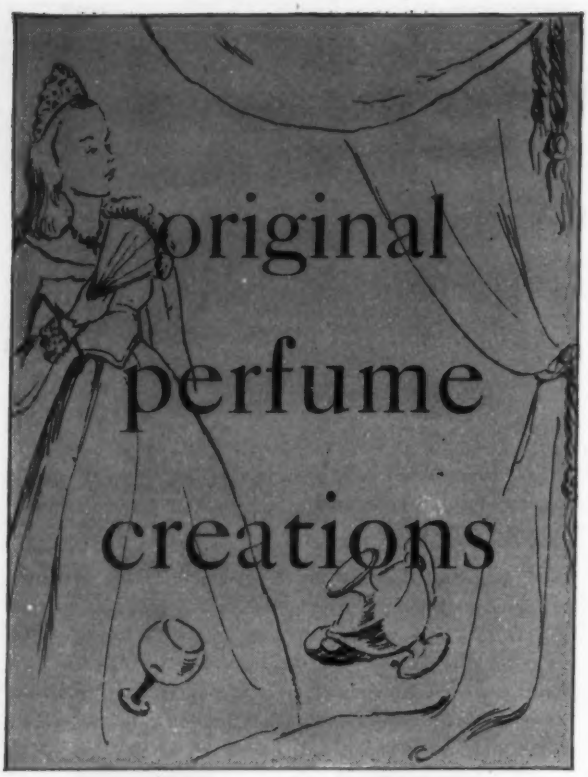

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Newer Uses for Gelatin

(*Continued from page 177*)

gelatin mixture and is easier to handle in the hypodermic syringe.[21]

Others have taken advantage of gelatin's actions to slow or prolong the effects of other potent drugs, including insulin. Myerson and his associates,[22] for example, have succeeded in prolonging the effects of amphetamine sulfate (benzedrine) on parenteral administration by using a gelatin vehicle. Laboratory and clinical studies conformed the superior efficacy of the amphetamine-gelatin solution.

More recently Loewe and Rosenblatt[23] have devised a practical method for the subcutaneous administration of heparin through the use of Pitkin's gelatin-containing menstruum. Heparin has proved of great worth in vascular surgery and in the therapy of phlebothrombosis and thrombophlebitis. Its value in the treatment and prevention of postoperative pulmonary embolism has been stressed and during the last year its potentialities, especially in conjunction with penicillin, for the treatment of subacute bacterial endocarditis has been brought to the fore.

To accomplish a slower and more uniform absorption of heparin, they adopted Pitkin's menstruum as a vehicle. Originally developed to regulate the rate of release of water-soluble drugs injected intramuscularly or subcutaneously, the menstruum contains 15 to 30 per cent gelatin, 5 to 12 per cent dextrose, 1 to 1.5 per cent acetic acid, and water to make 100 percent. The viscosity, which depends upon the concentration of the gelatin and dextrose, determines the rate of liberation of the drug; the greater the viscosity, the slower the release of the active agent. In the preparations containing heparin, the optimum percentages of gelatin and dextrose were found to be 18 per cent and 8 per cent, respectively.

Requiring a rather delicate procedure for its preparation, a simple, safe and practical method for the subcutaneous administration of heparia was devised by the use of this vehicle. It has been successfully employed in the treatment of fifteen cases of thrombophlebitis and phlebothrombosis.

Since prehistoric days, gelatin has been used as a hemostatic agent in Oriental countries and its use as a styptic has extended to other parts of the world as well.[24] Newer work indicates that gelatin may have an important place in the local treatment of wounds. Sinclair and Douglas[25] have found that implanting gelatin in experimentally sutured wounds serves to increase the strength of the wound. Application of gelatin to fresh open gum sockets after extraction of teeth and to varicose ulcers appears to hasten the process of fibrophasia and to produce rapid, stable healing. Because sulfonamide compounds and gelatin possess no chemical or physiological incompatibility, such combinations can be implanted advantageously in contaminated wounds.

The advantages of such combinations is illustrated in

the report of Robach and Ivy.[26] In their studies they employed a gelatin film containing 2.5 per cent sulfathiazole, some potassium iodide and enough glycerine and water to render the film pliable. This medicated gelatin film was compared with other standard burn-treating preparations. It was found, among other observations, that the incidence of infection was less with the medicated gelatin film than with the other medicated preparations. In addition to the advantage of ease of application, they concluded that medicated gelatin covered with a medicated pliable sheet of gelatin and firmly applied gauze or cotton dressing can be used for the treatment of burns and may prove more desirable than other preparations now used in the management of burns.

Of course, gelatin has long been employed in preparations for treating wounds, ulcers and various skin disorders, but improvements and new products are steadily being devised. Especially noteworthy are the various suggested improvements for making gelatins of zinc, extensively used in ulcer therapy. In England, Hoyle, Spence and Faulkner[27] suggested the following solid gelatin, resembling Unna's paste:

Zinc peroxide	6 Gm.
Gelatin	15 Gm.
Glycerine	35 Gm.
Distilled water, to make	100 Gm.

In Australia because of war-time shortages, Jeffs[28] developed the following preparation which he proposed as a substitute for gelatin of zinc (Unna's paste):

Gelatin	5 parts
Alcohol	6 "
Talc	30 "
Water, to make	100 "

Said to be cheaper to make, it is also claimed that this substitute is firmer, more comfortable, makes a longer lasting bandage which requires less frequent replacement than the original.

Rather interesting is the use of gelatin in a series of skin cleansing preparations for use in the presence of dermatoses or by the few individuals who cannot tolerate soap. Presenting three such preparations based on the use of sulfonated oils, Klauder and his associates[29] expressed a preference for the following combination because it provides a satisfactory detergent action and exerts more of an emollient effect:

Sulfonated neat's foot oil	45 per cent
Light liquid petrolatum	45 " "
Gelatin, 25% aqueous solution	10 " "

By combining two parts of this mixture with one part of a 20 per cent solution of sodium lauryl sulfate, a product is obtained which lathers somewhat and may have a better detergent action, but which has the disadvantage of being somewhat drying. A substitute for the harsh, grit or abrasive cleansers used by mechanics and other workers can be prepared by mixing equal parts of the above oil-gelatin combination and white granulated corn meal. An efficient cleaner for heavily soiled hands, this mixture acts both as a detergent and

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an emollient. In passing, it might be mentioned that these oil-gelatin mixtures were included in the more recent report of the committee on Occupational Dermatoses of the American Medical Association in[30] which was presented ways of recognizing and preventing industrial dermatitis.

During the last few years, gelatin has been gaining itself a reputation as an efficient emulsifying agent[31, 32] Work along these lines has continued. Tice,[33] for example, has suggested that gelatin could be used as a replacement for certain imported and hard-to-get gums and has developed several products based on its use as an emulsifier and emulsion stabilizer.

In 1943, McGee[34] in Australia presented a comprehensive review of the role of gelatin as an emulsifier and with it he presented considerable data based upon his own experiments in making pharmaceutical emulsions. As a result of this work it was found possible to emulsify oil in water by using a 5 per cent gelatin solution. This solution was gradually added to the oil until the emulsion consisted of equal parts of oil and water. This was used as the basis of several formulas, all designed to permit variation according to requirements.

One of these is intended as a vehicle for acriflavine, so that this bactericidal substance may be employed in its most efficient form. The following formula provides a paste which dries quickly on the skin to form a greasy powder. It requires the inclusion of 0.01 per cent of an anti-mold like salicylic acid or chlorbutol:

Gelatin solution, 5%	**5 dr.**
Liquid petrolatum	**5 dr.**
Powdered starch	**1 oz.**
Acriflavine	**sufficient**

Another formula presents a novel means of employing ichthyol in paste form. The addition of other materials permits variation in texture. This is prepared by combining equal parts of a 5 per cent gelatin solution, liquid petrolatum and zinc oxide with ichthyol.

Newer studies by Shackelford and Cordero[35] indicate that gelatin is most efficient as an emulsifying agent for heavy mineral oil emulsions when the pH of the emulsion is at the isoelectric point of the gelatin. In addition, mineral oil emulsions require an auxiliary emulsifying agent to increase viscosity without gelation and thus increase stability. With these observations as a basis, it was found that a satisfactory and stable emulsion of mineral oil can be prepared by using gelatin with the isoelectric point at pH 4 to 5 and with sodium alginate as the auxiliary emulsifying agent. Such a product is homogeneous and attractive in appearance, stands up under widely varying conditions of temperatures, maintains the proper viscosity and lends itself to large scale production.

If the patent literature is to be taken as an index, gelatin has found important uses as a carrier for vitamins. One series of patents[36, 37] is based on the use of emulsions containing vitamin A concentrates dispersed in gelatin. At least one large pharmaceutical house has utilized the recently discovered qualities inherent in

gelatin to put out a new type of multi-vitamin tablet. In these tablets the oil-soluble factors are so emulsified as to distribute the vitamin oils in fine, easily absorbed droplets in a gelatin matrix. It is said that this fine distribution permits gradual release of the vitamins as the gelatin dissolves in the digestive tract, thereby eliminating the eructation and unpleasant aftertaste associated with less efficiently dispersed products.[38]

Other patents,[39,40] granted in this country and in England, describe the preparation of stabilized solutions of thiamine. Gelatin is recommended as the preferred stabilizer.

Time has proved that the gelatin capsule, invented back in 1833 by Mothes, is probably the most efficient single-dose package available for dispensing unpleasant-tasting medicines. Methods for making gelatin capsules have been improved tremendously during that time, but it is only within the last few years that the gelatin capsule has been considered an important packaging material or container for materials other than therapeutic substances. Newer processes (e.g. the rotary die process) permit the capsulation in gelatin of a great variety of products. Capsulation offers such advantages as low cost, high speed production, accuracy of automatic filling, long time protection, and sanitation.[41] Color, when added to the gelatin shell, provides attraction and more positive identification and the question of compatibility is not a major problem.[42]

Already showing great promise before the war, gelatin capsules are now in military service as substitutes for metals and plastics, but in the post-bellum period they may be expected to find extensive application in packaging many convenient, small, single-use items such as cosmetics, ointments, first aid items, flavoring concentrates, and a host of other materials.

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Removing Pigmented Make-up Bases

(*Continued from page 173*)

will probably result if the mixture is diluted with an equal volume or even more of propylene glycol.

The addition of water to the clear liquid just described will not necessarily give a liquid emulsion. A small amount of water will often produce gelling and only the addition of excessive quantities of water (to the point where detergent action is seriously impaired) will lead to an emulsion thin enough to be poured from a bottle. The formulation must be completely revised. It should be based first on the wetting agent, present to the extent of about ten per cent in aqueous solution. Then enough of the auxiliary, cetyl alcohol for example, is included to bring the solution to the desired consistency. Although propylene glycol or similar products are not required in emulsion products, they may be useful for their solvent power on the oils being removed from the skin.

Creams, finally may be based upon ten to twenty per cent of a solid auxiliary agent—cetyl alcohol, glyceryl monostearate, etc.—with a few per cent of oil, more than five per cent of detergent, and no wax at all or as little as may be required to make the product hard enough.

These preparations, no matter what their physical form, are all used in the same way: they are rubbed into the portions of the skin area to be cleansed, and water is then used generously for rinsing.

Manufacture involves no novelties. The clear liquid first described is made by simply heating the components together and stirring moderately until they are dissolved. For emulsions, non-aqueous constituents are heated together until melted, poured into water at about the same temperature, and then stirred until complete emulsification has taken place. A colloid mill or homogenizer is not necessary, but may somewhat whiten a mixture containing mineral oil and other ingredients difficult to emulsify.

Shaving Soaps

(*Continued from page 175*)

The soap evidently contained up to 40 per cent moisture when pressed and filled. It gave a most unsightly appearance and wobbled around in the container like a dried pea in a pod. While such cases are extreme ones they do emphasize the necessity of giving ample attention to this detail. Further to protect the soap against shrinkage before it reaches the user's hands, it is advisable to wrap the finished bowl with water-proof paper to hold in the moisture which is about 12 per cent when the bowls are filled.

Shaving powder that produces a copious, lasting lather may be made by grinding together 75 per cent of soap of the formula below and made in the same way as the shaving stick base, together with 25 per cent of toilet soap chips. The soap should be dried to below

3 per cent moisture and the addition of 5 per cent talc or other inert mineral to take up the perfume and prevent caking of the powder is desirable. It is not easy to dry potash—stearic-acid-soaps of this composition. In certain cases the potash soap base has been made in a vacuum crystallizer to flash off the moisture more readily, after the soap is finished and ready for framing. Then the resulting dried pellets are cooled, mixed and ground with the toilet soap base which has been dried in a regular soap dryer. In the grinding of shaving soap care must be taken not to reduce it too finely. A soap so ground that 95 per cent passes through a 50 mesh screen is fine enough. If ground too finely, it will dust too much and cause sneezing during use. A potash soap base suitable for reduction to shaving powder, together with 25 per cent of dried toilet soap chips, as already mentioned, consists of:

225 lbs.	Coconut Oil (Cochin Grade)
280 "	Soda Lye 35° B.
340 "	Potash Lye 50° B.
1100 "	Stearic Acid (Double Pressed)

The modus operandi for this soap is exactly the same as that outlined for shaving stick base.

Shaving soap powder has been packaged in canisters, cartons and paper bags. In the grinding and filling operations it must be borne in mind that potash soaps melt and cake at a lower point than soda soaps. For that reason care should be taken in keeping down the temperature during these operations.

In presenting formulae for all types of shaving media, an effort has been made to base them upon the type of lather produced by the soap. In the last analysis, the shaver will judge the quality of shaving soaps, including shaving creans, upon the lasting, mild, abundant lather it produces. It is, therefore, necessary to have these characteristics mainly in mind when shaving soap formulae are compiled. Shaving soaps have always been considered among soap makers as one of the most ticklish of all soaps to make.

Pitfalls of Lipstick Manufacture

(Continued from page 169)

and a third completes the packaging. There is at least one firm which uses an automatic filling machine for the insertion of the stick into its case, but generally speaking it is a hand operation. However, several manufacturers have developed automatic flaming devices with which the sticks may be flamed without its becoming a complicated manual operation. The success of any such automatic operations would depend on the complete freedom in the stick itself from any defect since these cannot be successfully overcome by an automatic flaming operation.

If flamed by hand and it is noticed that holes appear at the surface or that other irregularities appear, these may be overcome by smoothing with the finger and reflamed. In an automatic flaming operation any reasons for such defects must be removed before the stick is submitted to flaming.

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